

# Short-Term Industry & Occupation Employment Projections

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## 2017-2019

Doug Walls, Research Administrator

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# **Industry Projections**

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## **2017-2019**

# Industry Projections Methodology: Estimation Process

- Projections are based on past industry employment trends and are refined by a review of current economic developments
- Short-term projections estimate employment from 2017 Q3 to 2019 Q2
- Quarterly Census of Employment and Wages (QCEW) data was used as the principal data source
- The industry classification structure differs slightly from CES industry classification
  - Notably: State and local government education employment is categorized in NAICS 611: Educational Services

# Industry Projections Methodology:

## Data Used

- Industry Projections Estimates **Include**:
  - Nonfarm employment by subsector group (3-digit NAICS)
  - Self-employed workers who work for profit or fees in their own business, profession, trade, or farm
  - Private household workers employed as domestic workers whose primary activities are to maintain the household
  - Railway and religious organization employees
  - Farm employment
- Industry Projections Estimates **Exclude**:
  - Unpaid family workers
  - Active duty military service men and woman

# Substate Regions

Projected employment was estimated for 12 geographic areas including:

Seven Arizona Counties

- Coconino; Maricopa; Pima; Pinal; Santa Cruz; Yavapai; and Yuma Counties

Two Sub-County Areas

- City of Phoenix; Balance of Maricopa County

Three Multi-County Areas

- Northeast Arizona: Apache, Navajo and Gila Counties
- Southeast Arizona: Greenlee, Graham, and Cochise Counties
- Mohave and La Paz Counties

# Industry Projections Methodology: Economic Assumptions

- The institutional framework of the U.S. economy will not change radically
- Recent technological and scientific trends will continue
- The long-term employment patterns will continue in most industries
- Federal, state, and local government agencies are expected to operate under budgetary constraints
- No major events will occur that will significantly alter the industrial structure of the economy, the occupational staffing patterns, or the rate of long-term growth
- Population growth rates and age distributions will not differ significantly from the US Census Bureau presently available
- Attitudes toward work, education, income, and leisure will not change significantly

## Statewide Industry Highlights

- Total employment is projected to grow by 152,968 jobs over the two-year period (2.6% annualized growth)
- All eleven supersectors are projected to add jobs
- Educational and Health Services is expected to add the largest number of jobs (39,779 jobs or 3.3% annualized growth)
- Construction is projected to record the largest percentage gain at 5.2% annualized growth (15,554 jobs)
- Sectors with the largest expected gains are: Educational and Health Services (39,779 jobs), Professional and Business Services (22,391 jobs), Leisure and Hospitality (19,547 jobs), Construction (15,554), and Trade, Transportation and Utilities (15,312 jobs).

## Substate Industry Highlights

- All eleven substate areas are projected to add jobs over the two-year period
- Balance of Maricopa County is projected to add the largest number of jobs and grow at the fastest pace (100,234 jobs and 4.4% annualized growth respectively)
- Balance of Maricopa County is projected to account for the largest share of the job growth (66% of projected jobs)
- Four of eleven substate areas are projected to grow at or above 2.0%, while ten of eleven are projected to grow at or above 1.0%



# Arizona Economic Trends

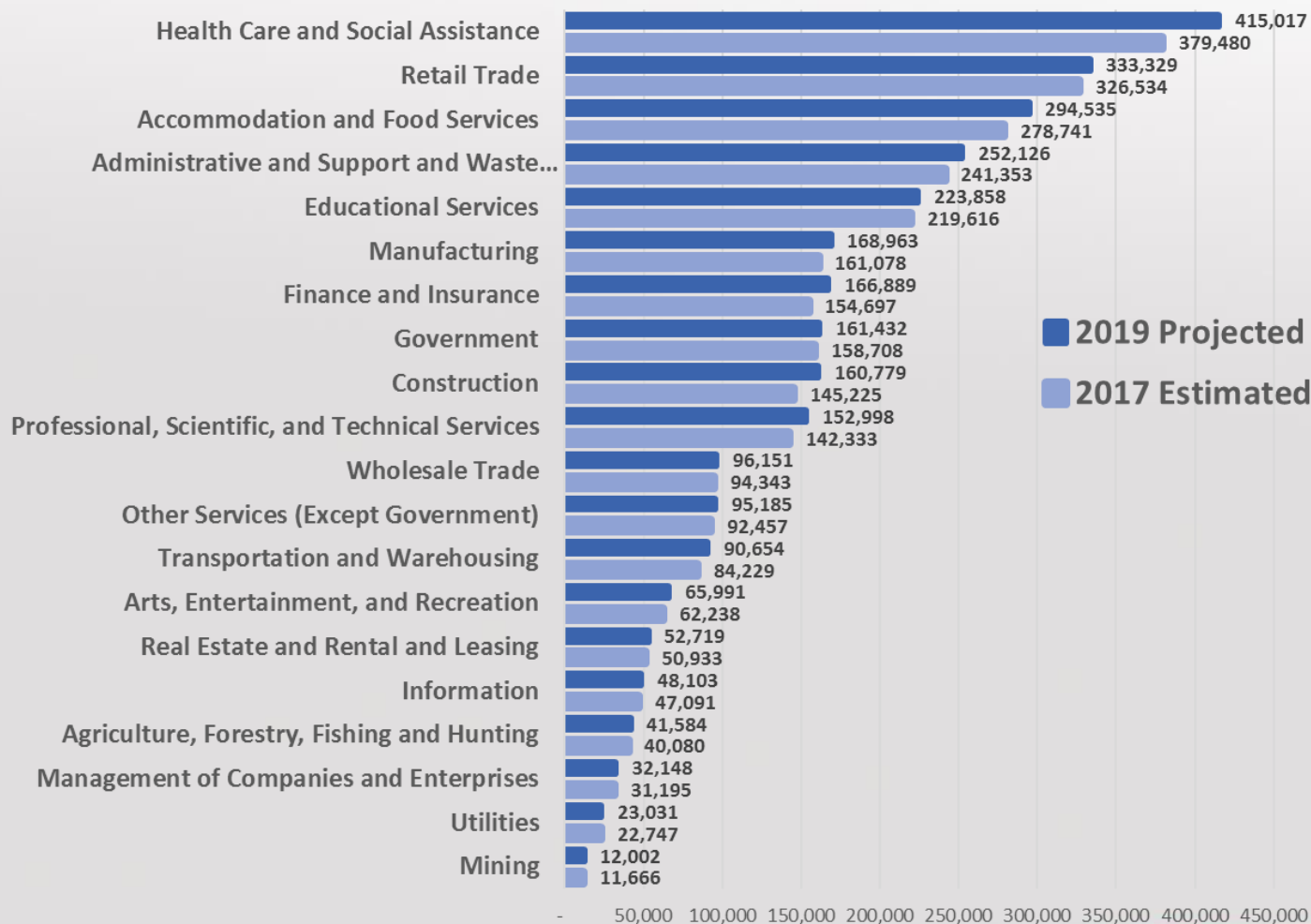
- Population levels continue to increase
- The supply of available labor is starting to tighten as the rate of unemployment drops below 5%
- Increase in labor force participation
- Improvement in private sector wages
- Continued increase in new private housing unit building permit levels
- Growth in State GDP, particularly in Manufacturing
- Room for continued improvement with Arizona unemployment rate above that of the US'

# National Economic Trends

- Consumer sentiment continues to climb
- Rebound in US copper prices
- US healthcare consumption projected to increase through 2019
- Online retail sales continue to grow

## Arizona Major Industry Groups

2017 & 2019 Employment Share

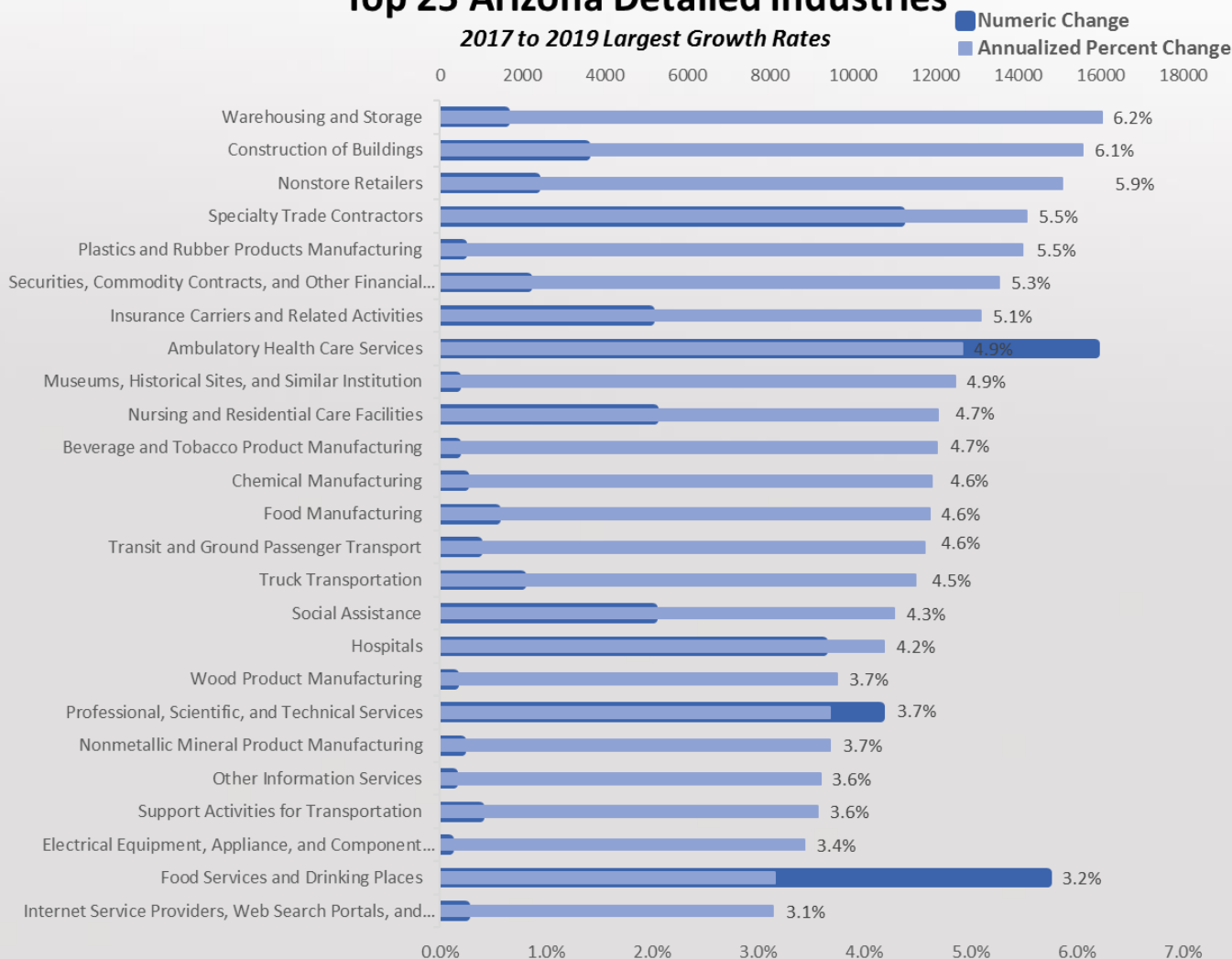


## Arizona Employment Forecast by 2-Digit NAICS Industry - Annualized Growth Rate

|  | 2015 Q3 - 2017 Q2 (a) |          | 2017 Q3 - 2019 Q2 (b) |          |
|--|-----------------------|----------|-----------------------|----------|
|  | Numeric Change        | % Change | Numeric Change        | % Change |
| Accommodation and Food Services                  | 15,641                | 2.9%     | 15,794                | 2.8%     |
| Admin. & Support & Waste Mgmt Services           | 10,871                | 2.3%     | 10,773                | 2.2%     |
| Agriculture, Forestry, Fishing and Hunting       | (19)                  | 0.0%     | 1,504                 | 1.9%     |
| Arts, Entertainment, and Recreation              | 4,179                 | 3.5%     | 3,753                 | 3.0%     |
| Construction                                     | 15,887                | 6.0%     | 15,554                | 5.2%     |
| Educational Services                             | 2,409                 | 0.6%     | 4,242                 | 1.0%     |
| Finance and Insurance                            | 13,741                | 4.8%     | 12,192                | 3.9%     |
| Government                                       | (1,316)               | -0.4%    | 2,724                 | 0.9%     |
| Health Care and Social Assistance                | 30,681                | 4.3%     | 35,537                | 4.6%     |
| Information                                      | 447                   | 0.5%     | 1,012                 | 1.1%     |
| Management of Companies and Enterprises          | 126                   | 0.2%     | 953                   | 1.5%     |
| Manufacturing                                    | 4,159                 | 1.3%     | 7,885                 | 2.4%     |
| Mining   | (1,018)               | -4.1%    | 336                   | 1.4%     |
| Other Services (Except Government)               | 1,947                 | 1.1%     | 2,728                 | 1.5%     |
| Professional, Scientific, and Technical Services | 11,359                | 4.2%     | 10,665                | 3.7%     |
| Real Estate and Rental and Leasing               | 2,456                 | 2.5%     | 1,786                 | 1.7%     |
| Retail Trade                                     | 9,735                 | 1.5%     | 6,795                 | 1.0%     |
| Total All Industries                             | 141,126               | 2.7%     | 152,968               | 2.6%     |
| Transportation and Warehousing                   | 6,685                 | 4.2%     | 6,425                 | 3.7%     |
| Utilities  | (217)                 | -0.5%    | 284                   | 0.6%     |
| Wholesale Trade                                  | 1,463                 | 0.8%     | 1,808                 | 1.0%     |

## Top 25 Arizona Detailed Industries

2017 to 2019 Largest Growth Rates



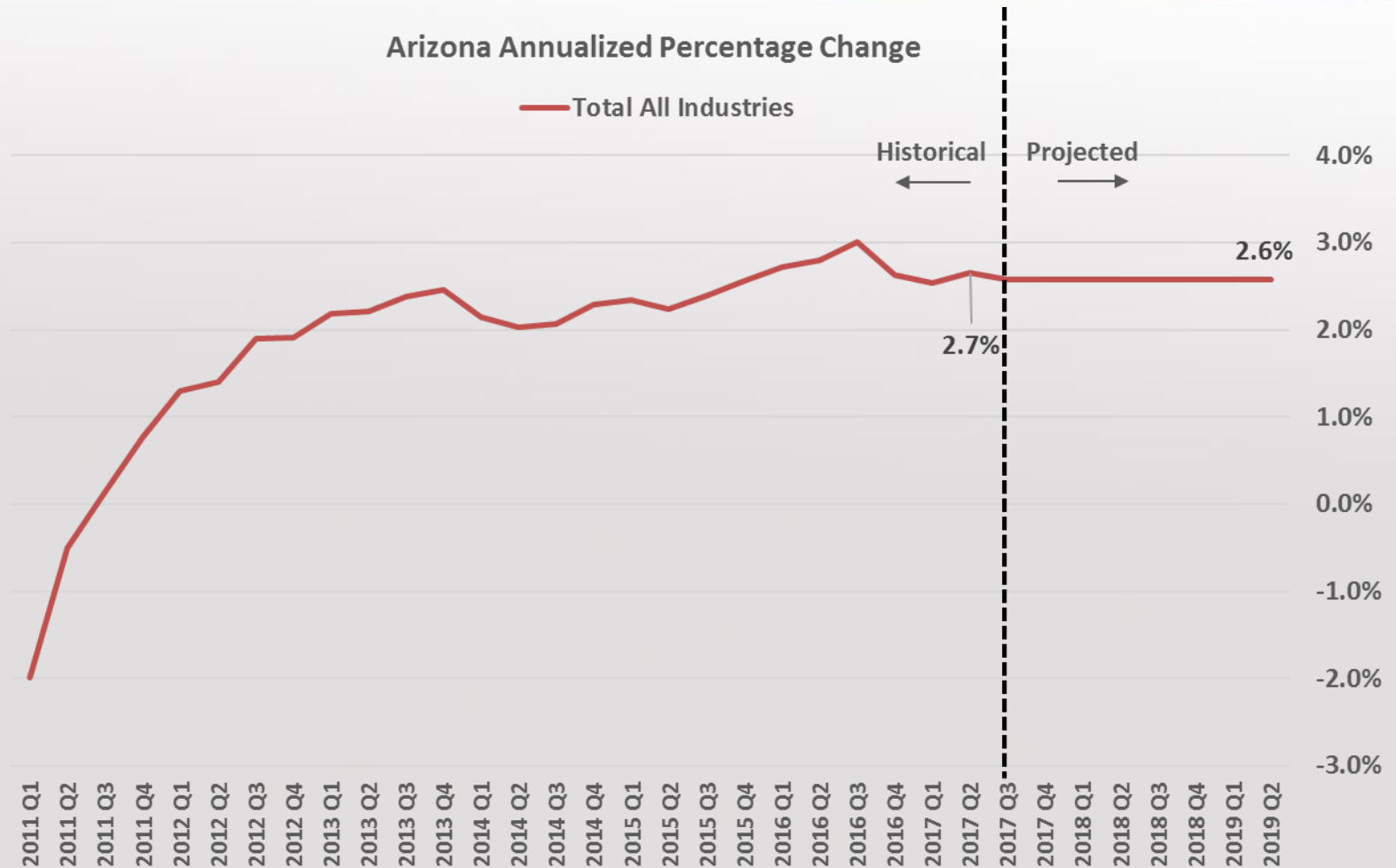
(a) Historical (b) Forecast

**Total Employment Forecast by Sub-state Area**

## Annualized Growth Rate

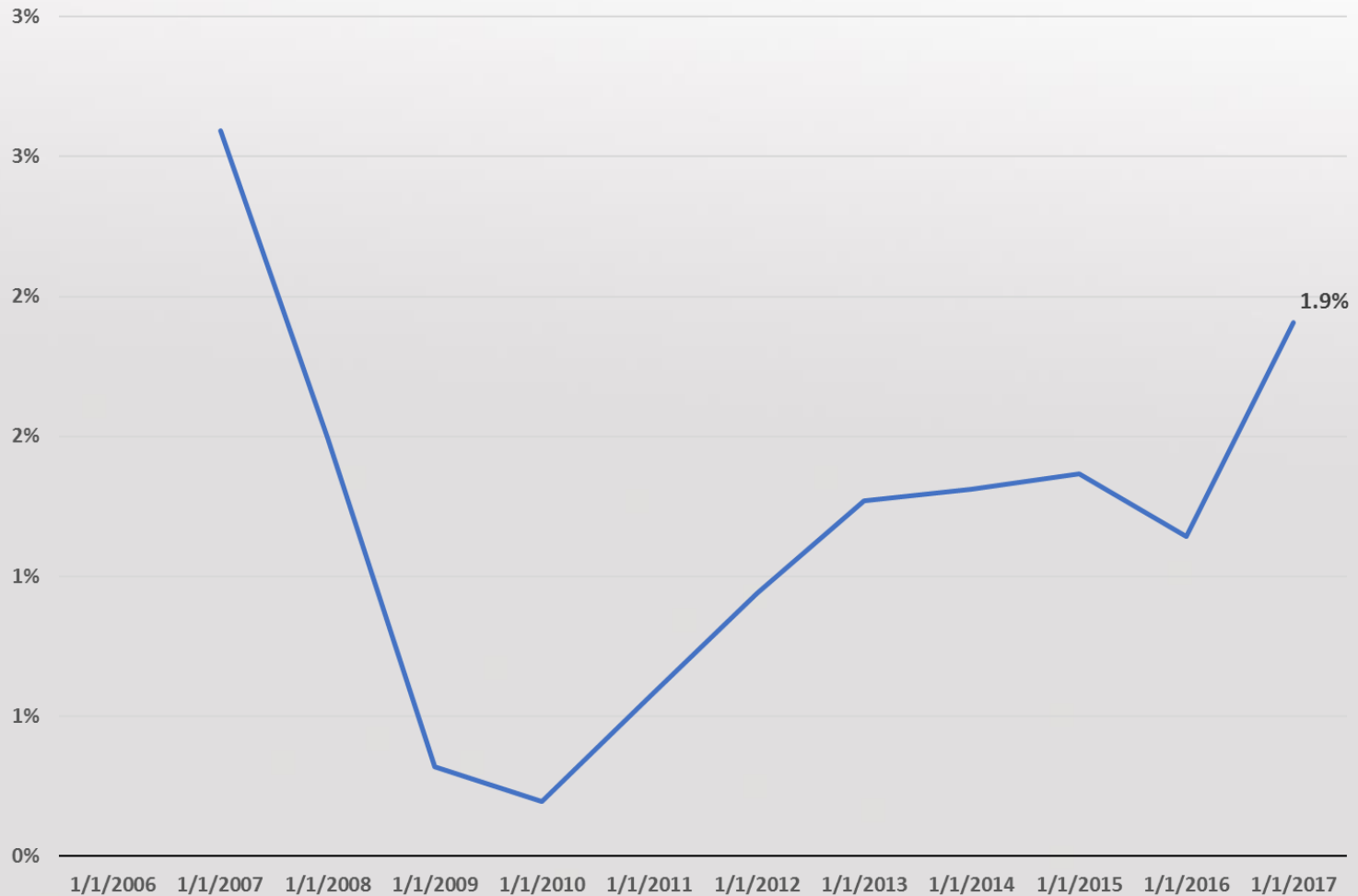
|                      | 2015 Q3 - 2017 Q2 (a) |                   | 2017 Q3 - 2019 Q2 (b) |                   |
|----------------------|-----------------------|-------------------|-----------------------|-------------------|
|                      | Numeric Change        | Percentage Change | Numeric Change        | Percentage Change |
| Arizona              | 150,387               | 2.7%              | 152,968               | 2.6%              |
| Balance of Maricopa  | 104,731               | 5.0%              | 100,073               | 4.4%              |
| City of Phoenix      | 18,682                | 1.0%              | 23,048                | 1.2%              |
| Coconino County      | 2,329                 | 1.7%              | 2,243                 | 1.6%              |
| Mohave and La Paz    | 2,677                 | 2.3%              | 2,400                 | 2.0%              |
| Northeastern Arizona | 1,725                 | 1.2%              | 2,263                 | 1.5%              |
| Pima County          | 12,549                | 1.6%              | 13,355                | 1.7%              |
| Pinal County         | 3,323                 | 2.6%              | 2,883                 | 2.1%              |
| Santa Cruz County    | -438                  | -1.4%             | 76                    | 0.3%              |
| Southeastern Arizona | 271                   | 0.3%              | 1,728                 | 1.6%              |
| Yavapai County       | 3,791                 | 2.9%              | 2,870                 | 2.1%              |
| Yuma County          | 740                   | 0.6%              | 2,025                 | 1.5%              |
| Maricopa             | 123,413               | 3.1%              | 123,121               | 3.8%              |

(a) Historical (b) Forecast



Source: Arizona Office of Economic Opportunity

## Arizona Population Over-the-Year Percent Change



Source: Arizona Office of Economic Opportunity

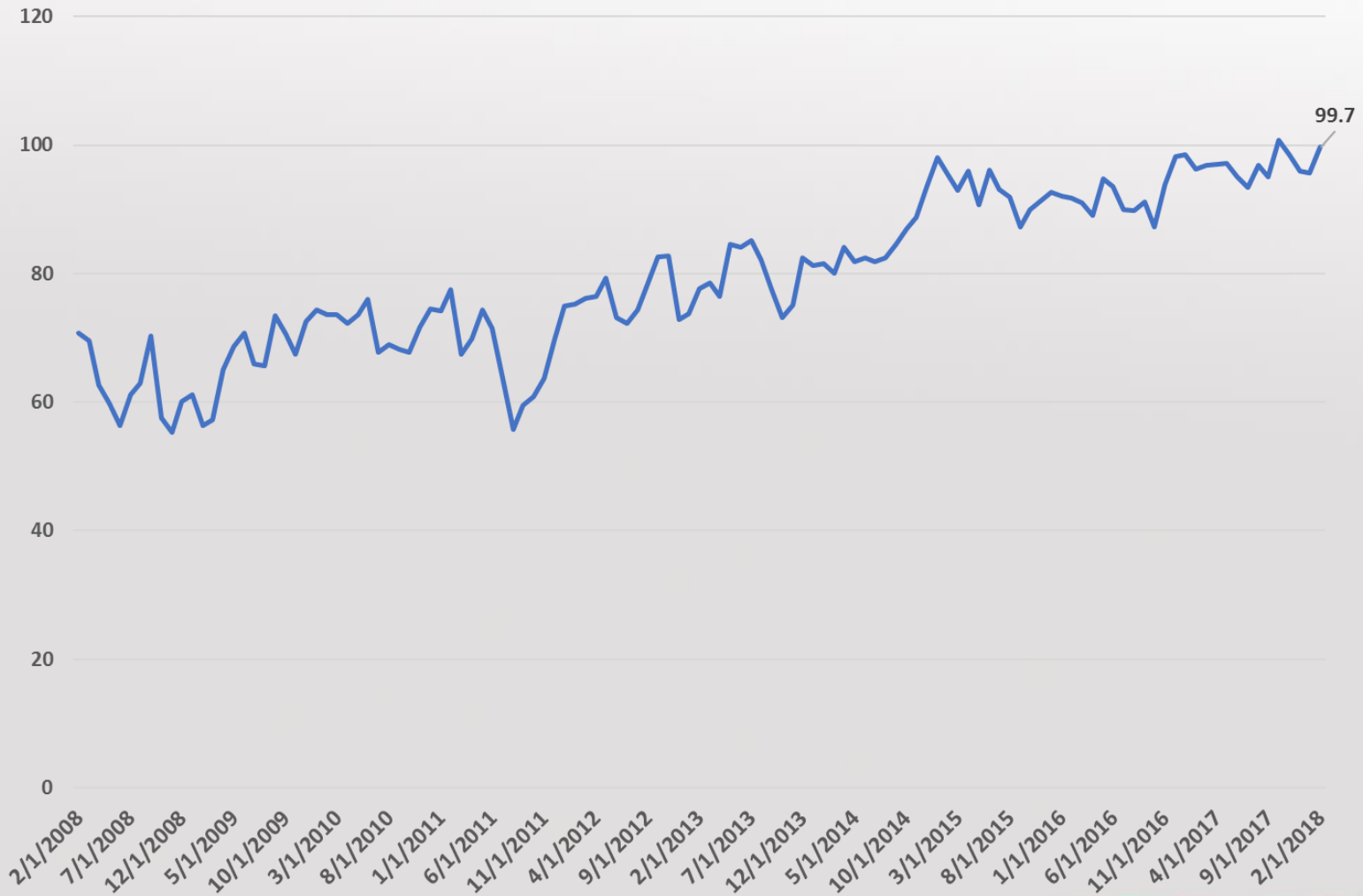


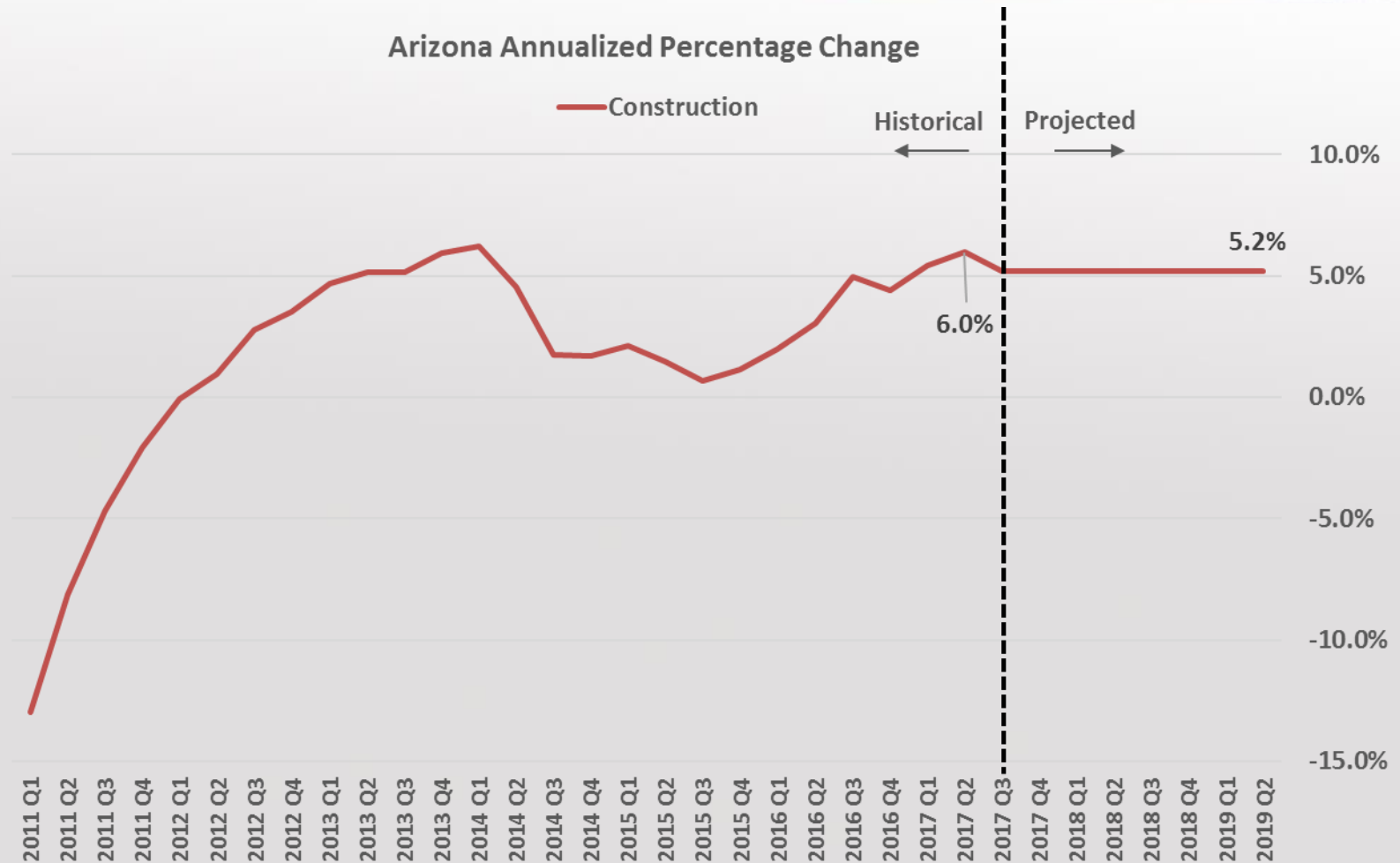
## Real GSP in Arizona (millions of chained 2009 dollars)



Source: US Bureau of Economic Analysis

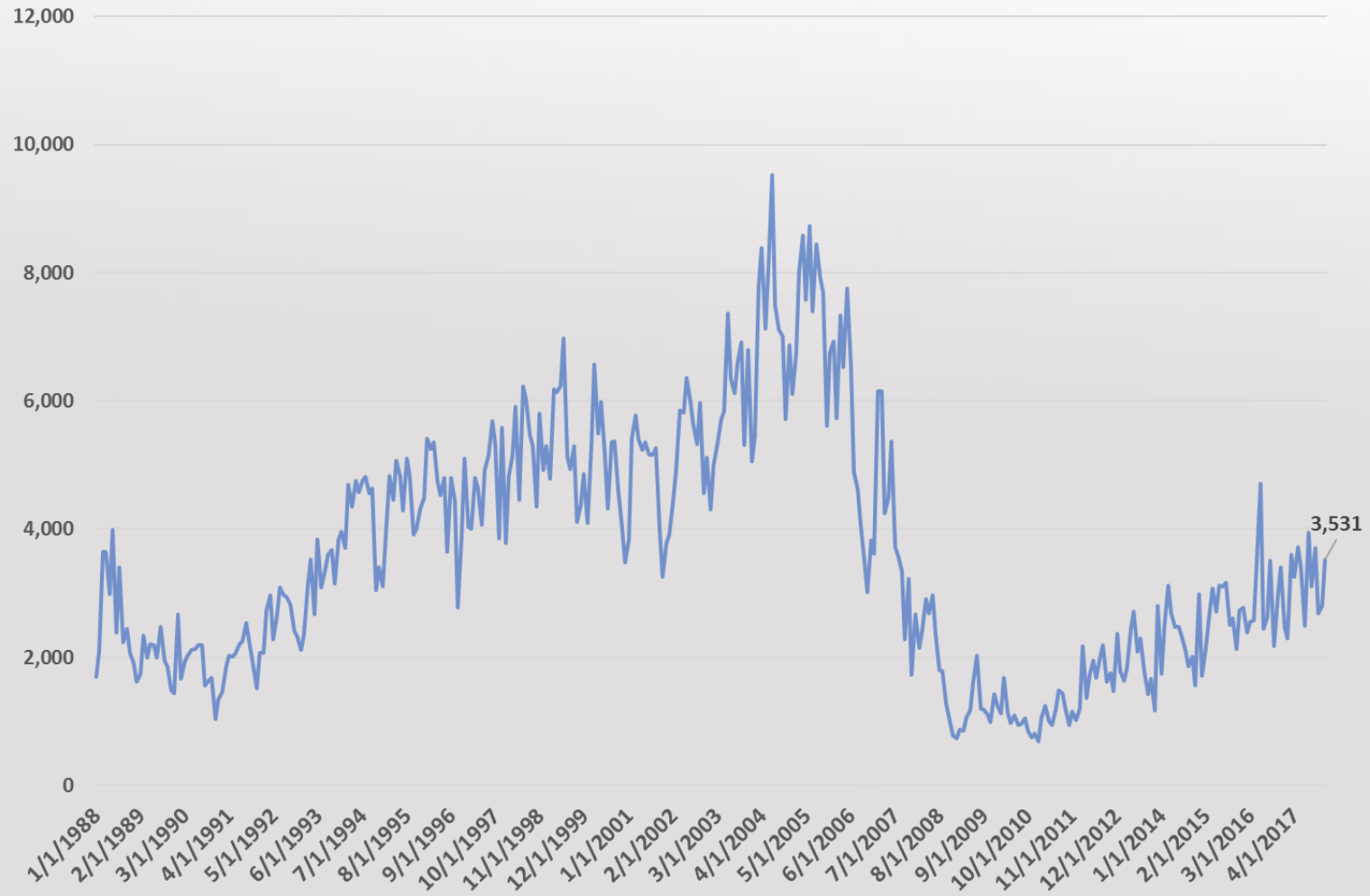
## U.S. Consumer Sentiment Index





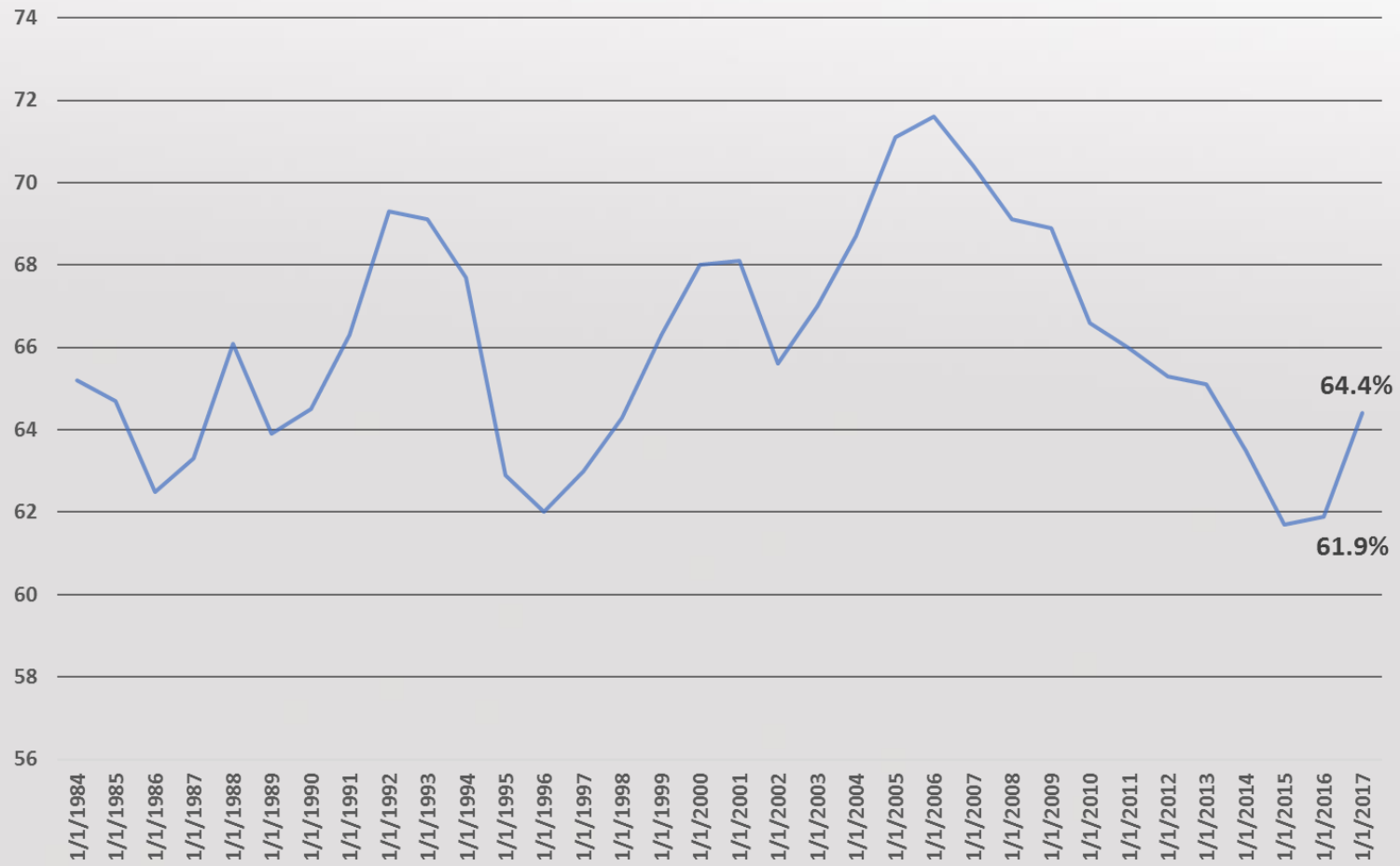
Source: Arizona Office of Economic Opportunity

## New Private Housing Unit Building Permits for Arizona

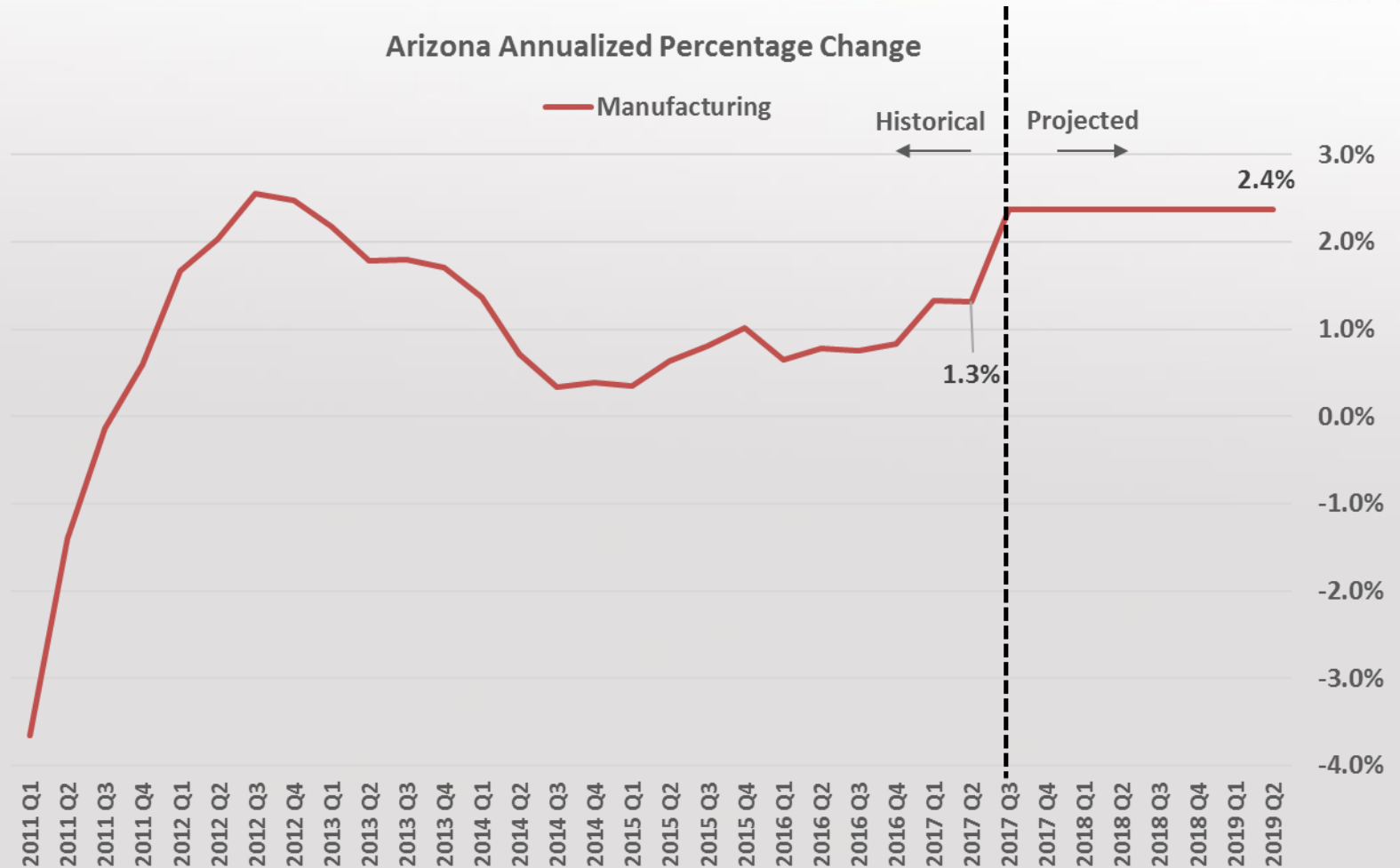


Source: US Bureau of the Census

## Homeownership Rate for Arizona, Percent, Not Seasonally Adjusted

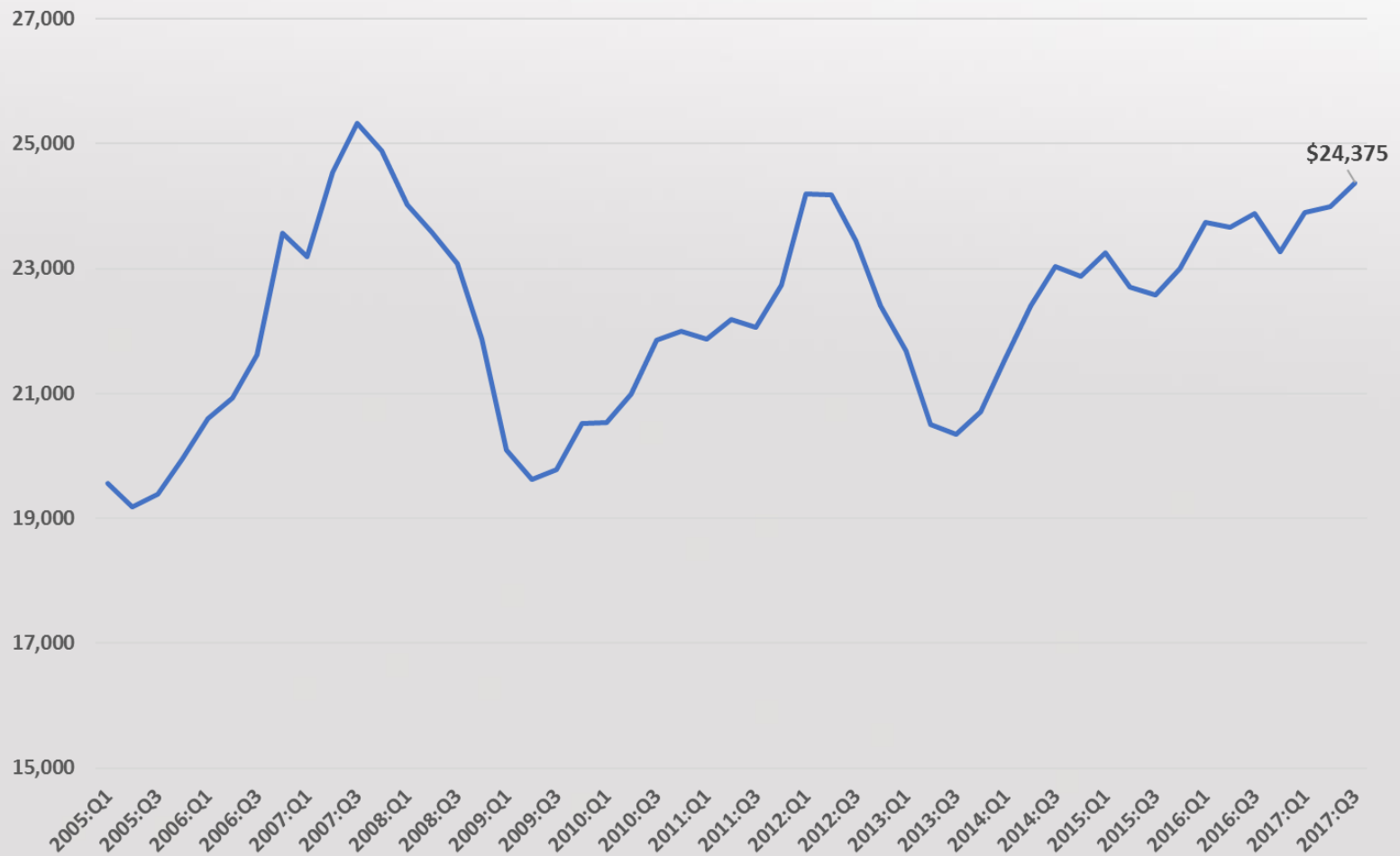


Source: U.S. Bureau of the Census

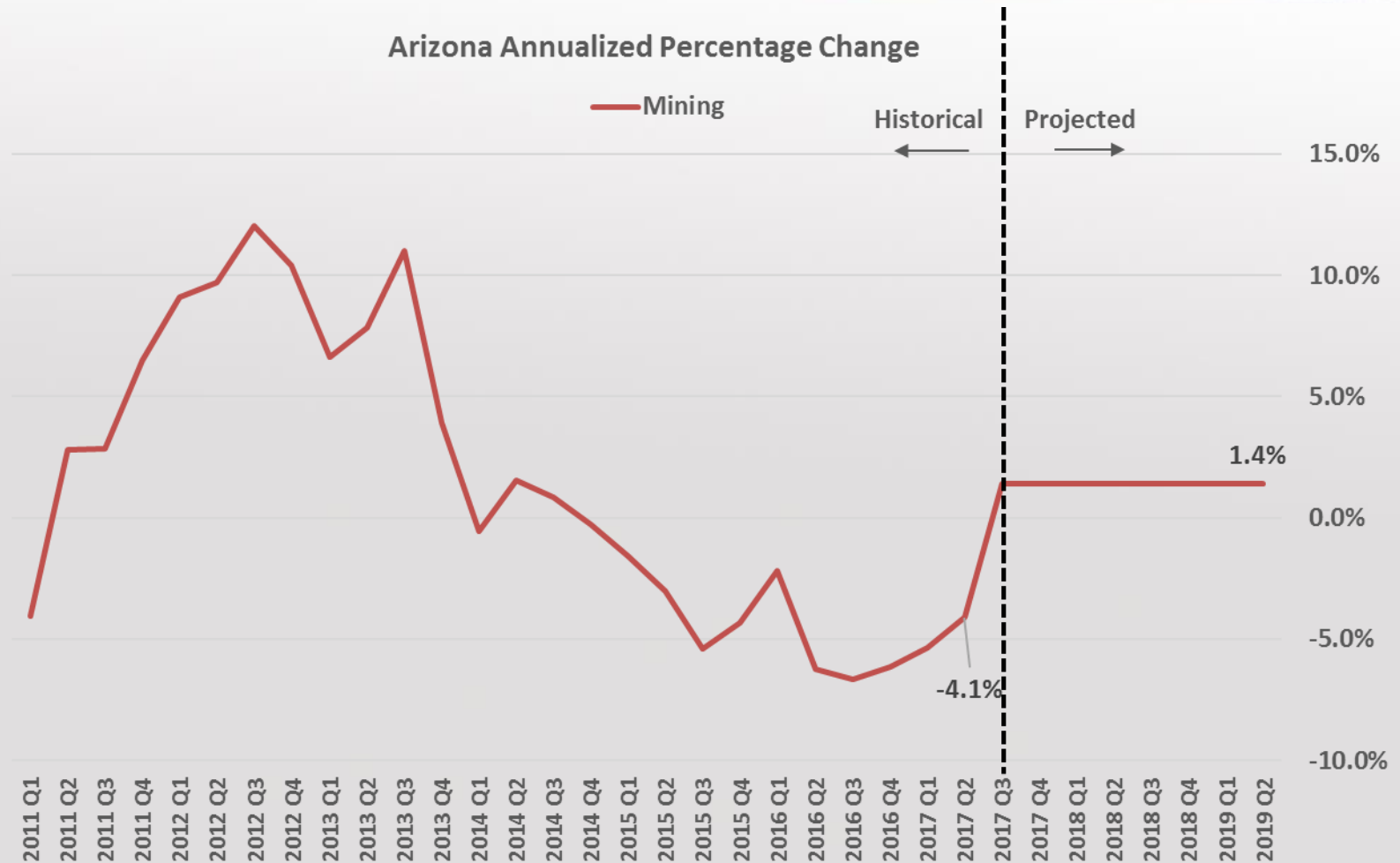


Source: Arizona Office of Economic Opportunity

## Real Manufacturing GSP in Arizona (millions of chained 2009 dollars)



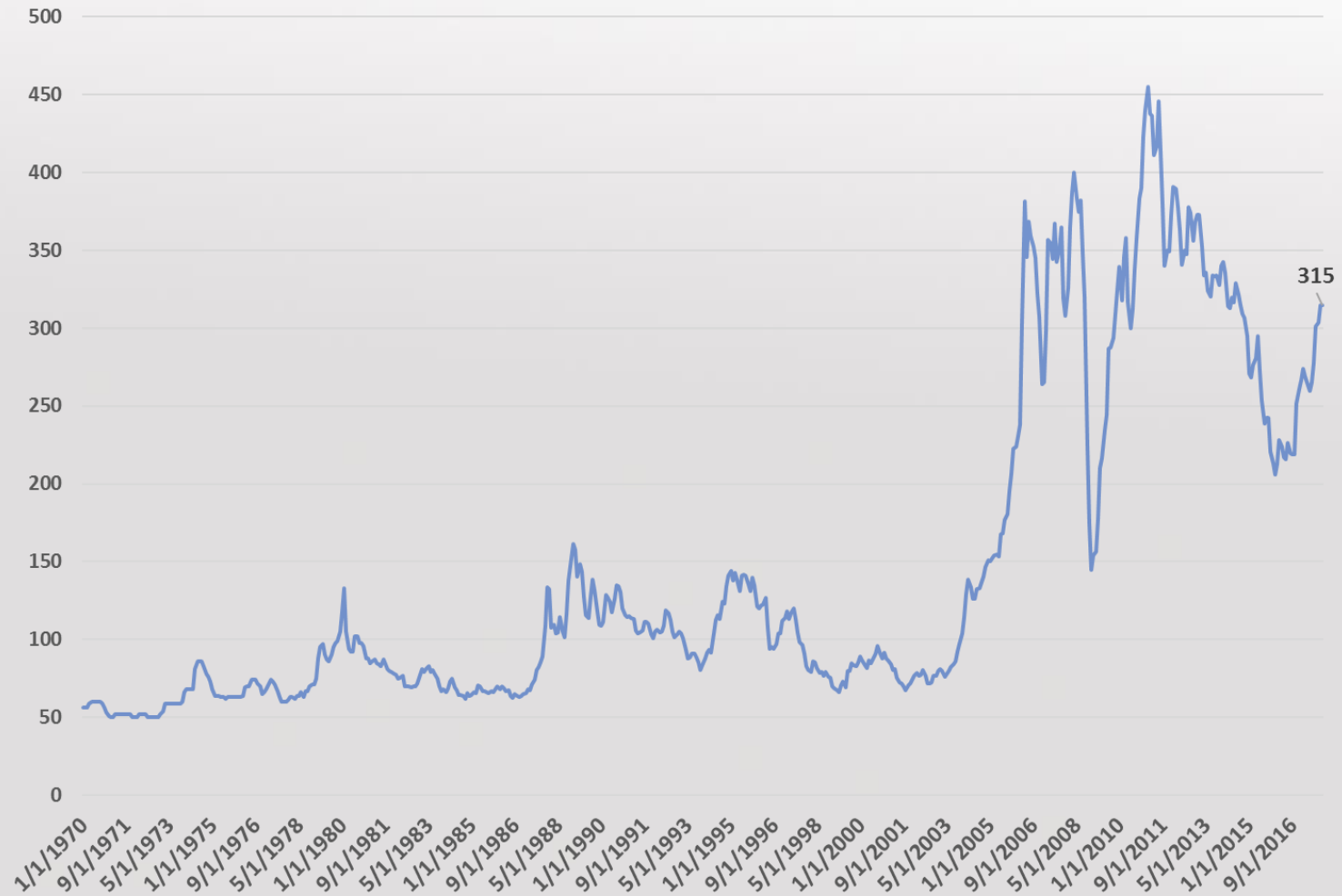
Source: US Bureau of Economic Analysis



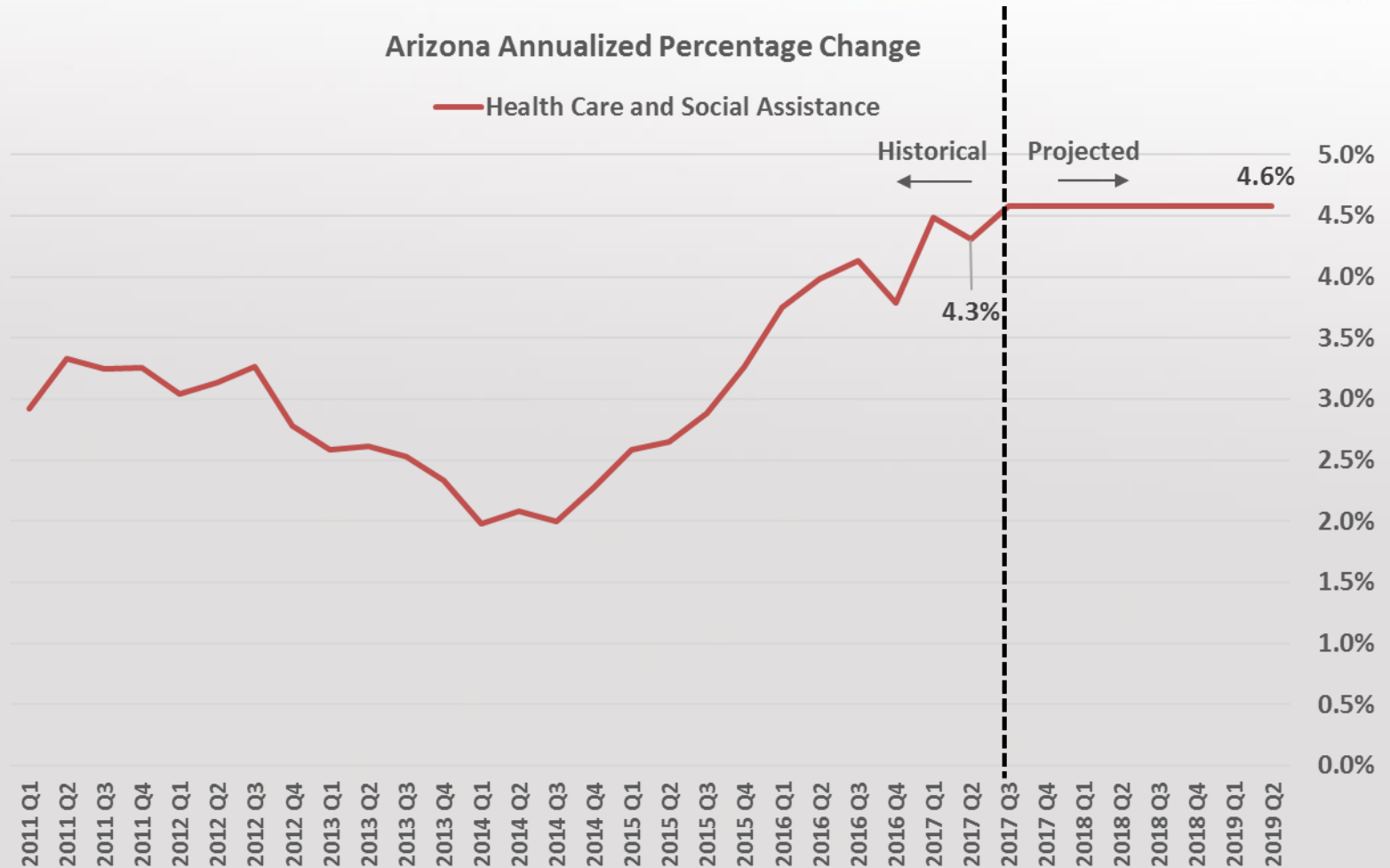
Source: Arizona Office of Economic Opportunity



## US Copper Prices (cents/lb)

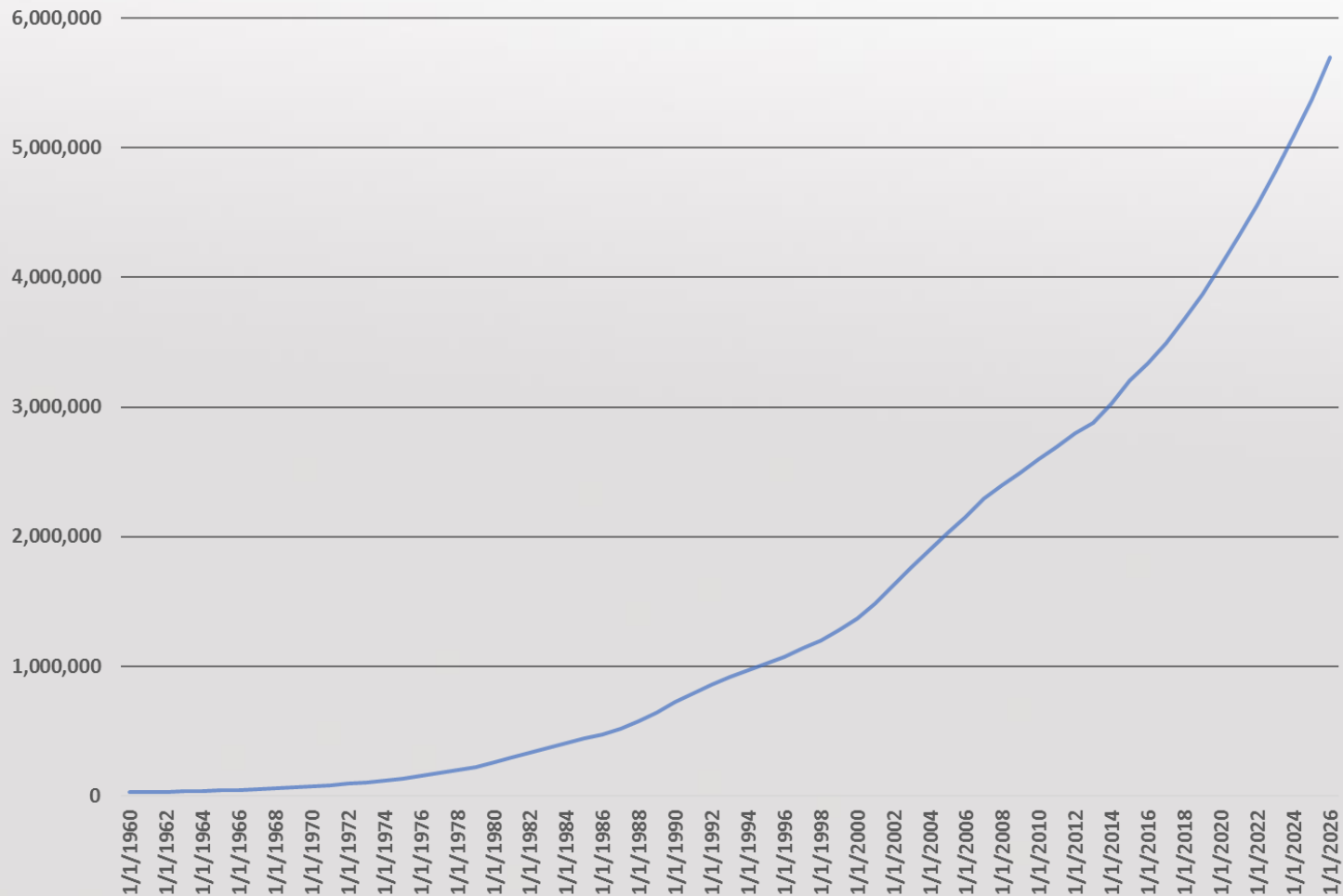


Source: The University of Arizona Economic and Business Research Center

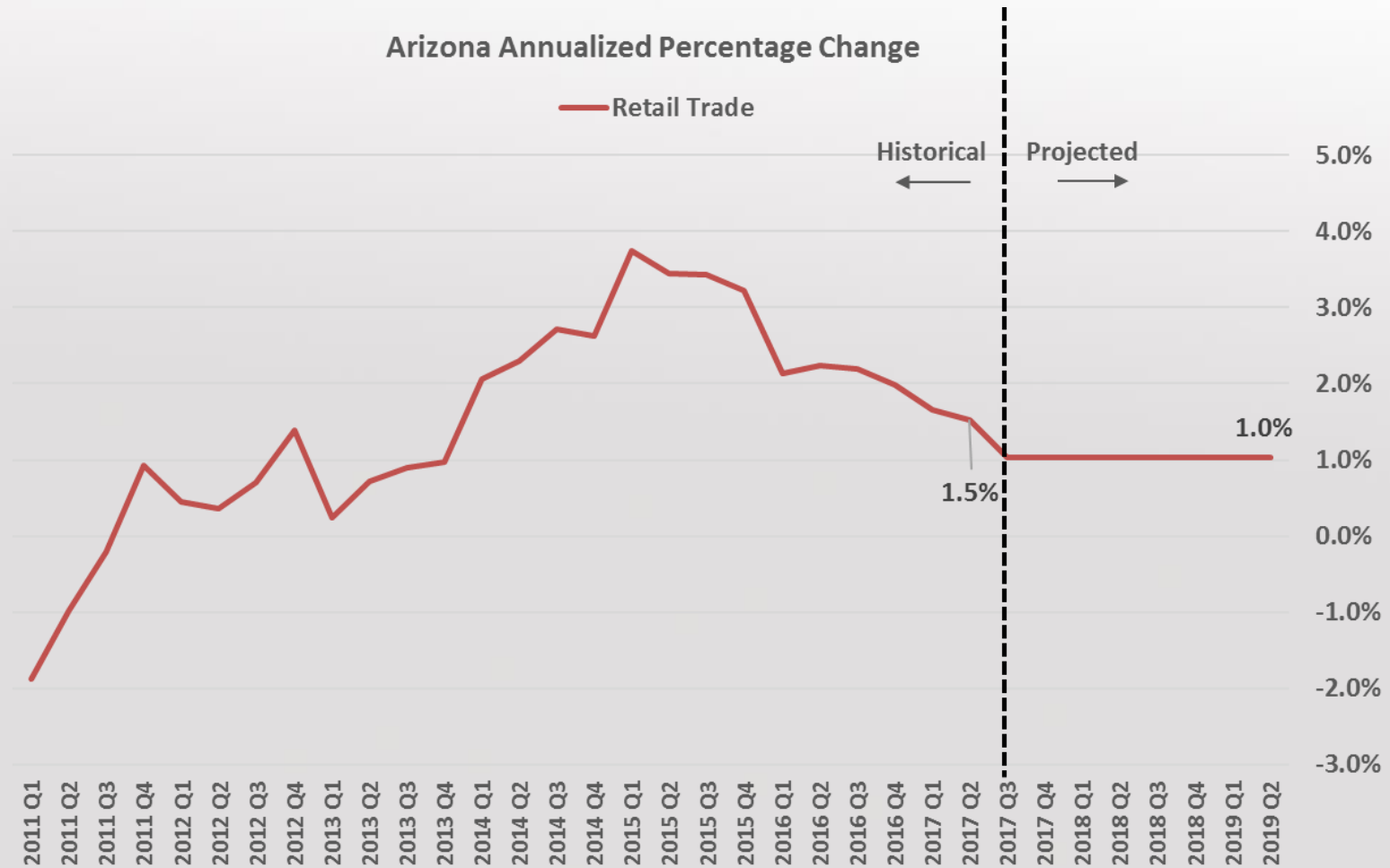


Source: Arizona Office of Economic Opportunity

## National Health Expenditures (in millions)

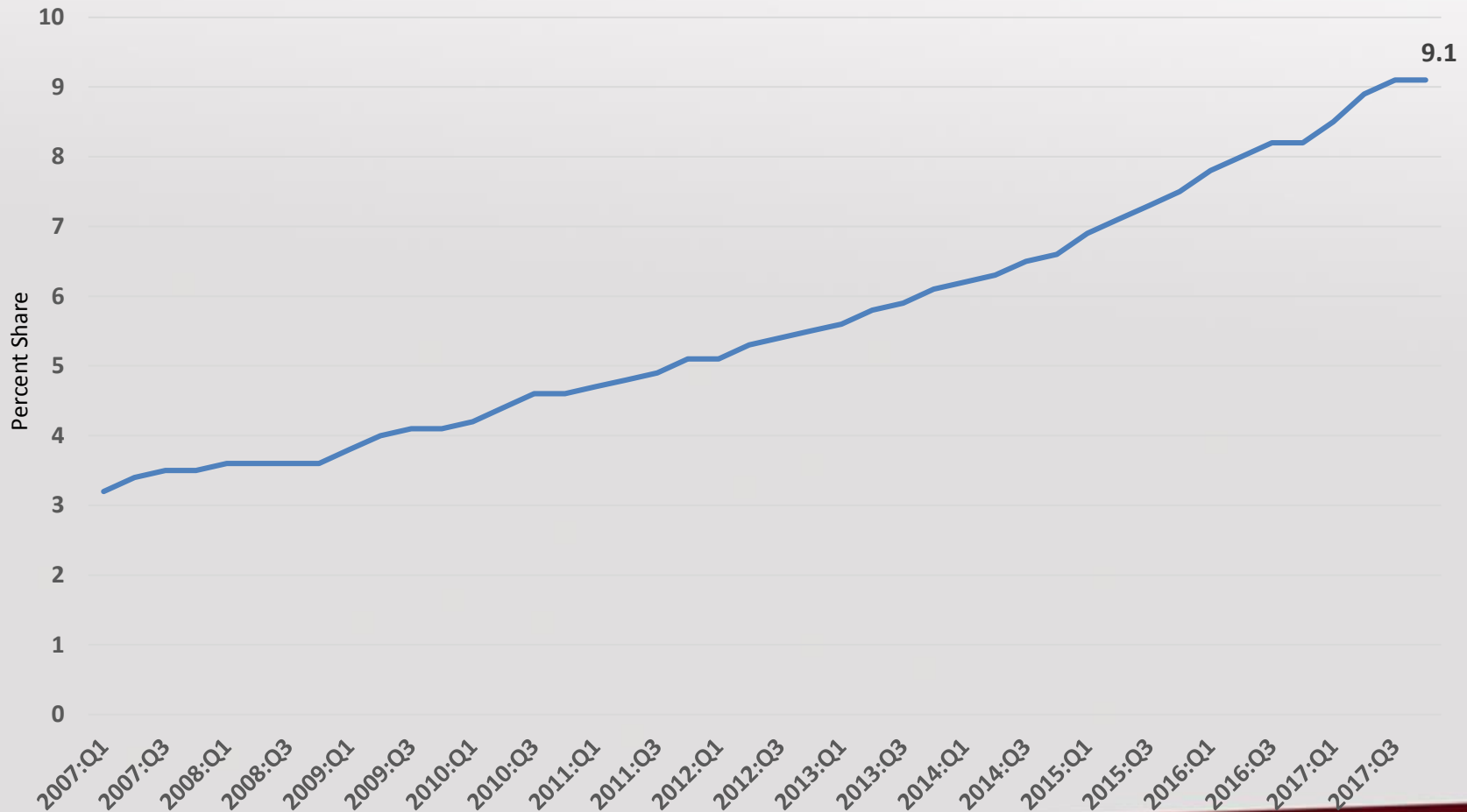


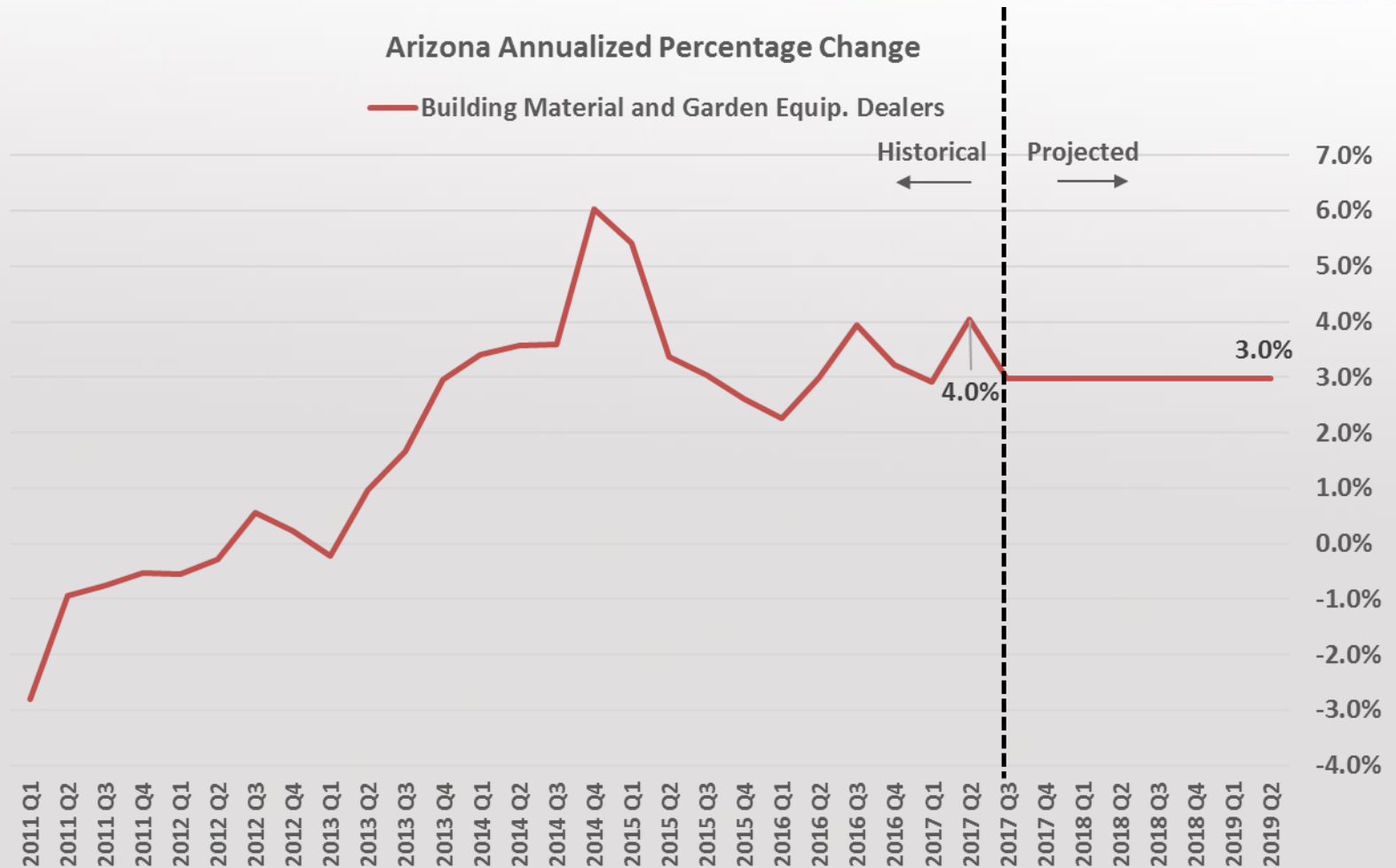
Source: Centers for Medicare and Medicaid Services



Source: Arizona Office of Economic Opportunity

## U.S. E-Commerce Retail Sales as a Percent of Total Sales

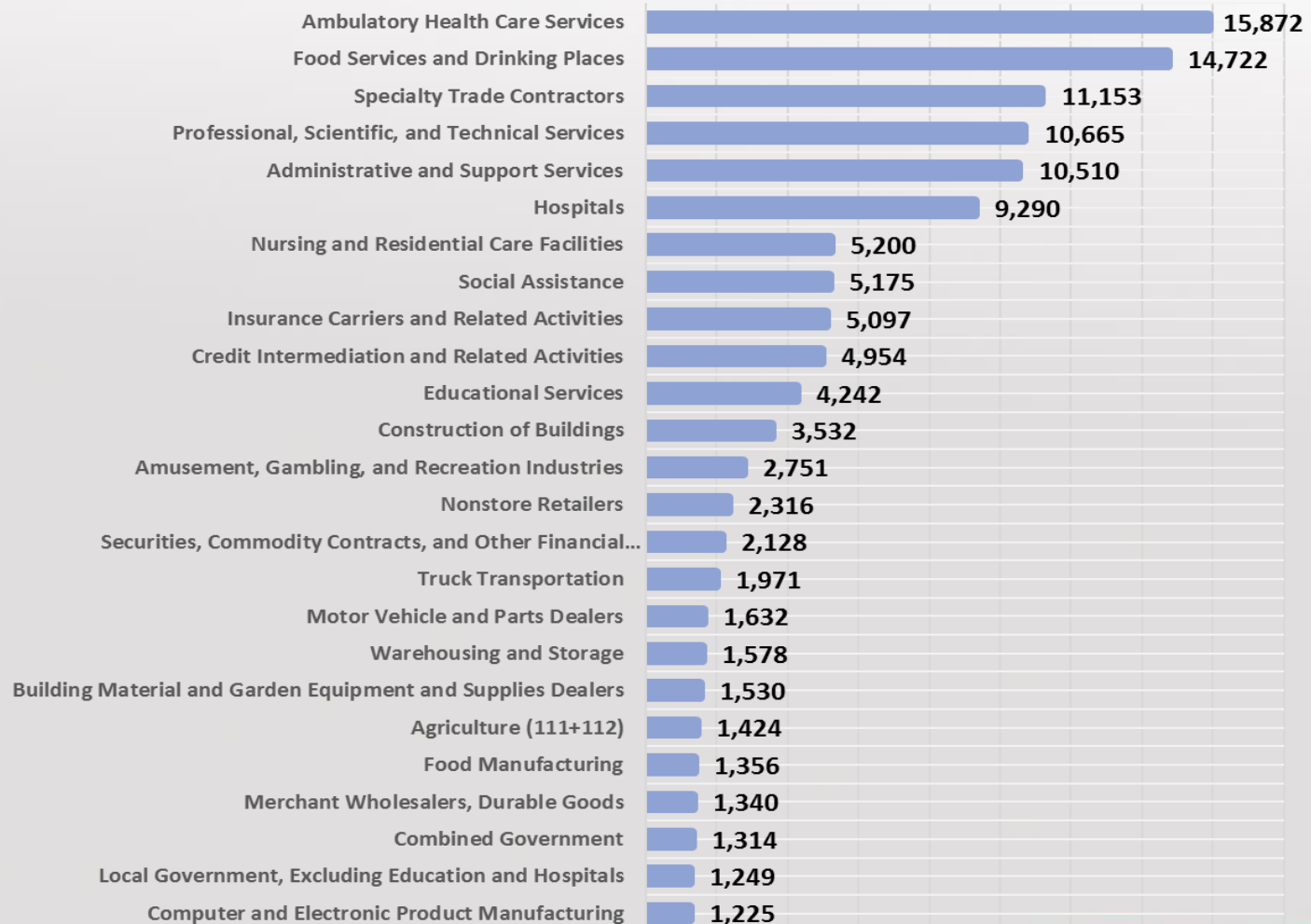




Source: Arizona Office of Economic Opportunity

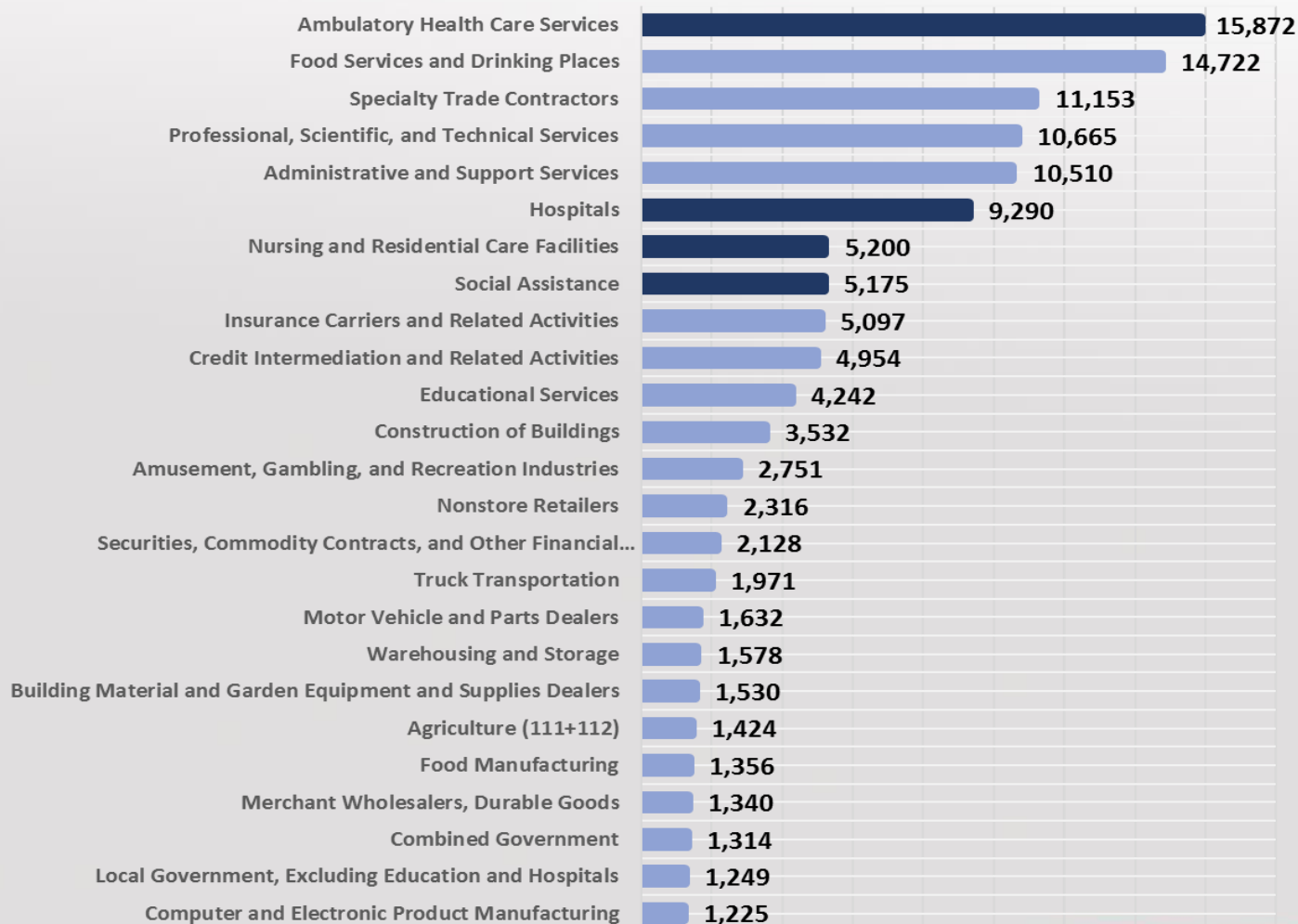
## Top 25 Arizona Detailed Industries

*2017 to 2019 Largest Employment Change*



## Top 25 Arizona Detailed Industries

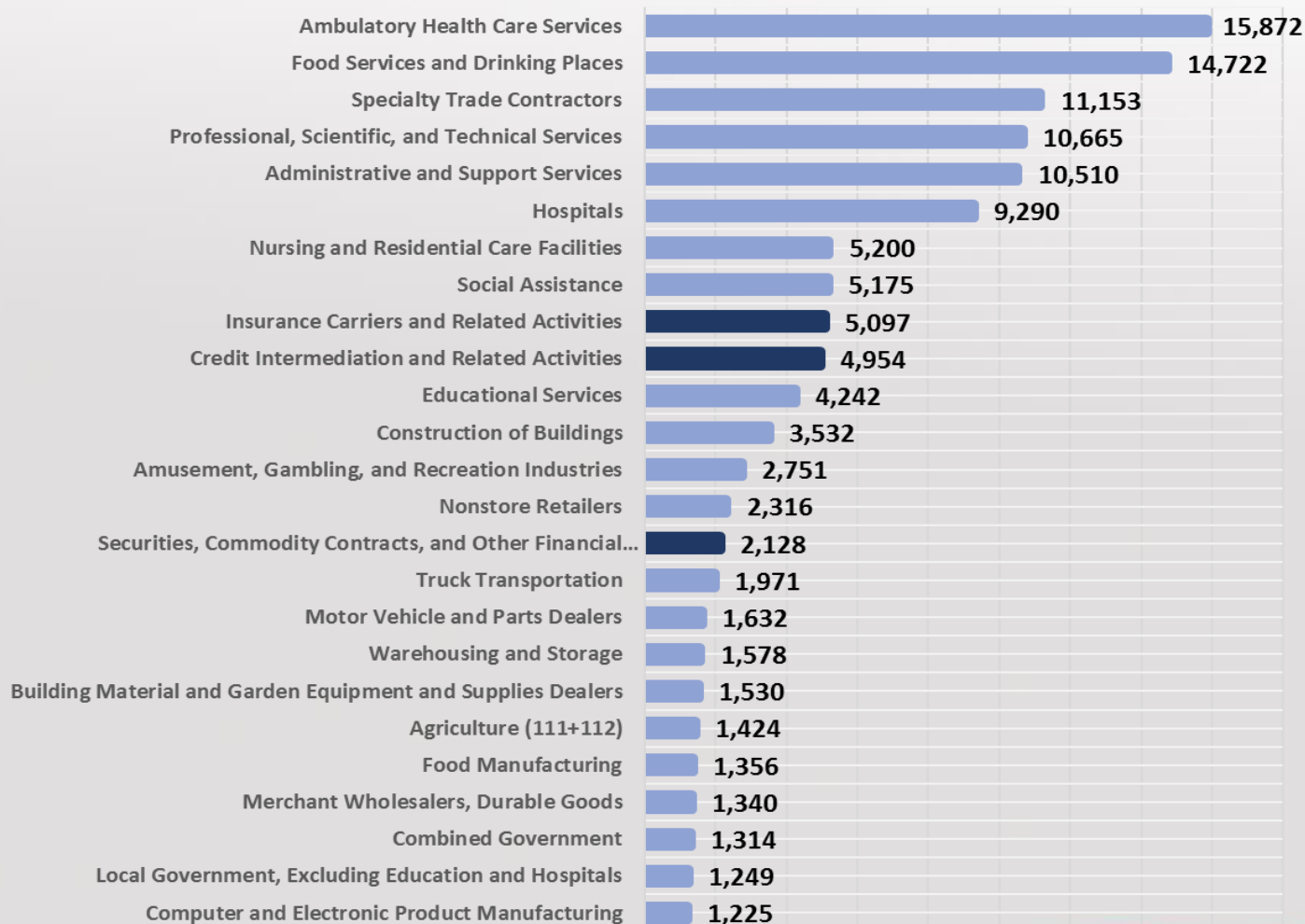
*2017 to 2019 Largest Employment Change*





## Top 25 Arizona Detailed Industries

*2017 to 2019 Largest Employment Change*



# Occupation Projections

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## 2017-2019

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# Occupation Projections Methodology:

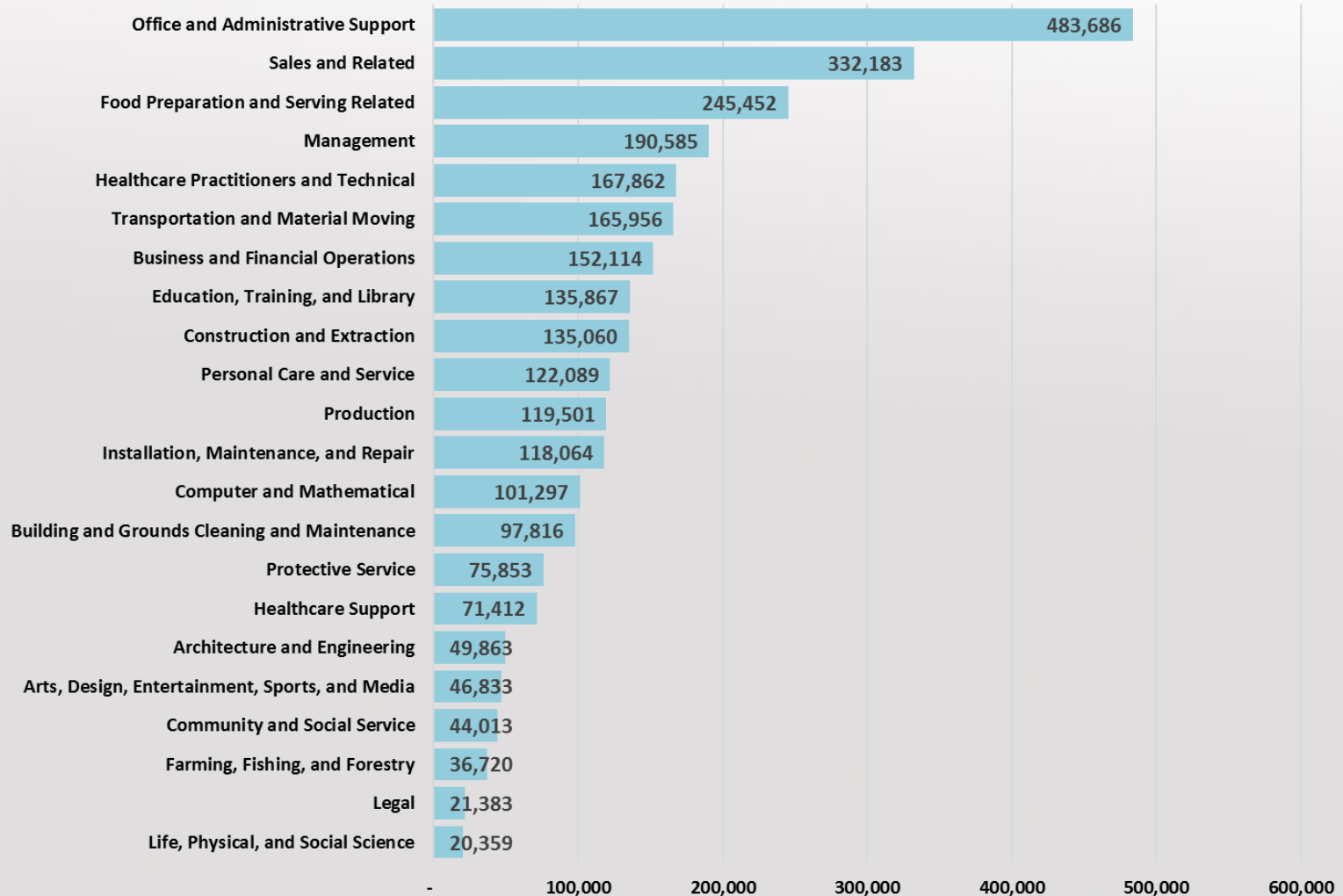
## Data Sources

- Occupational Staffing Patterns
  - OES survey responses are summarized by industry and matched to a NAICS code
  - Statewide responses are substituted in cases where local OES responses are not available
- Industry Employment Projections
  - Primary data source used to project changes in occupational employment

## Statewide Occupation Projections Highlights

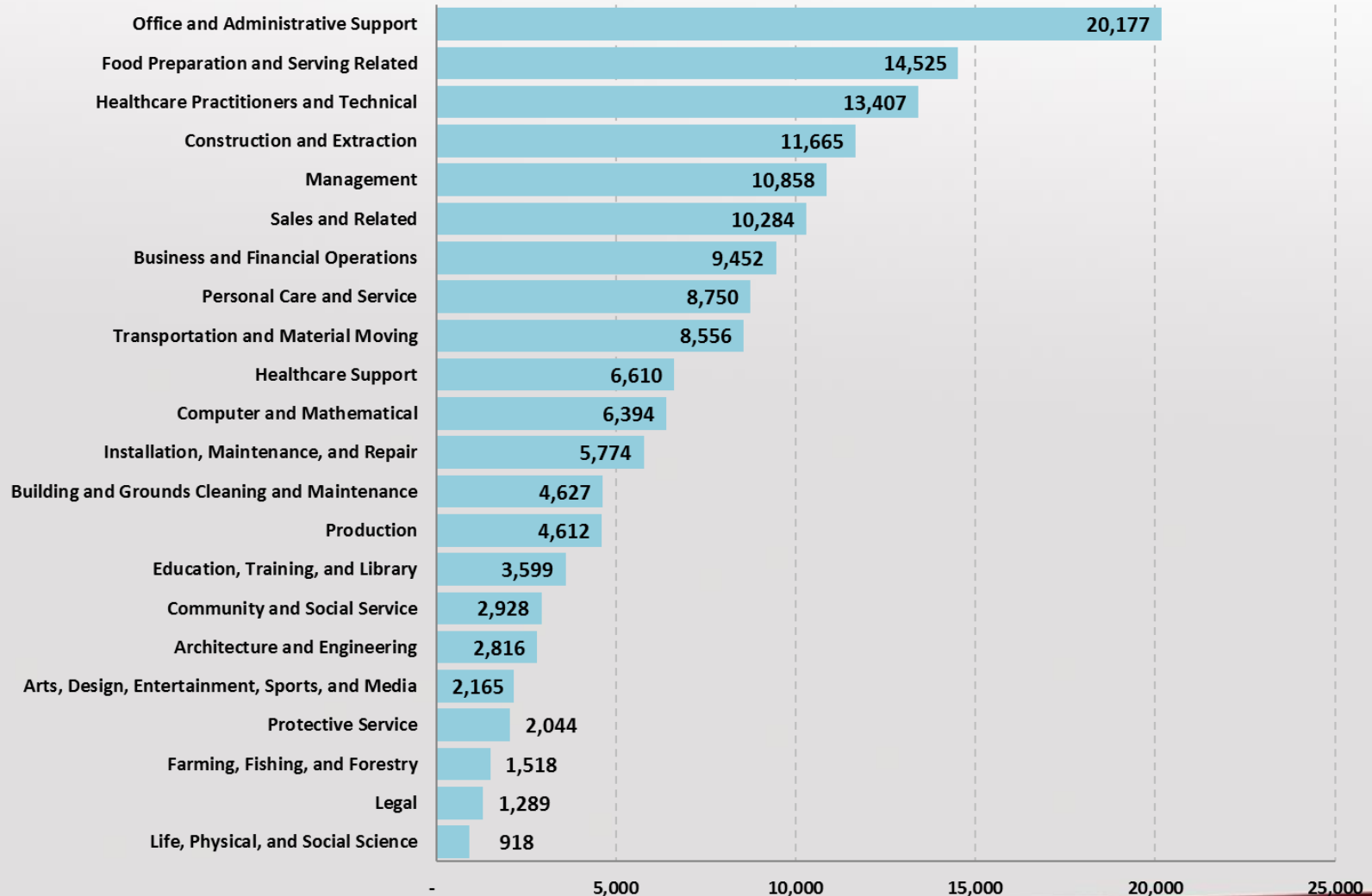
- 22 of the 22 Major Occupation Groups are projected to record employment gains
- The Office and Admin Support Occupation is projected to record the largest numeric change (20,177 jobs)
- The Healthcare and Support Occupation is projected to record the fastest growth rate (9.3% growth)
- The Office and Admin Support Occupation is projected to have the largest number of job openings (130,872 jobs)
- Occupations requiring at least some form of post secondary non-degree award (6.8% growth) or an associates degree are projected to record the fastest growth rate (6.4% growth)
- Occupations requiring a some college, but no degree are projected to record the slowest growth rate (3.6% growth)

## 2017 Arizona Occupational Employment Estimates



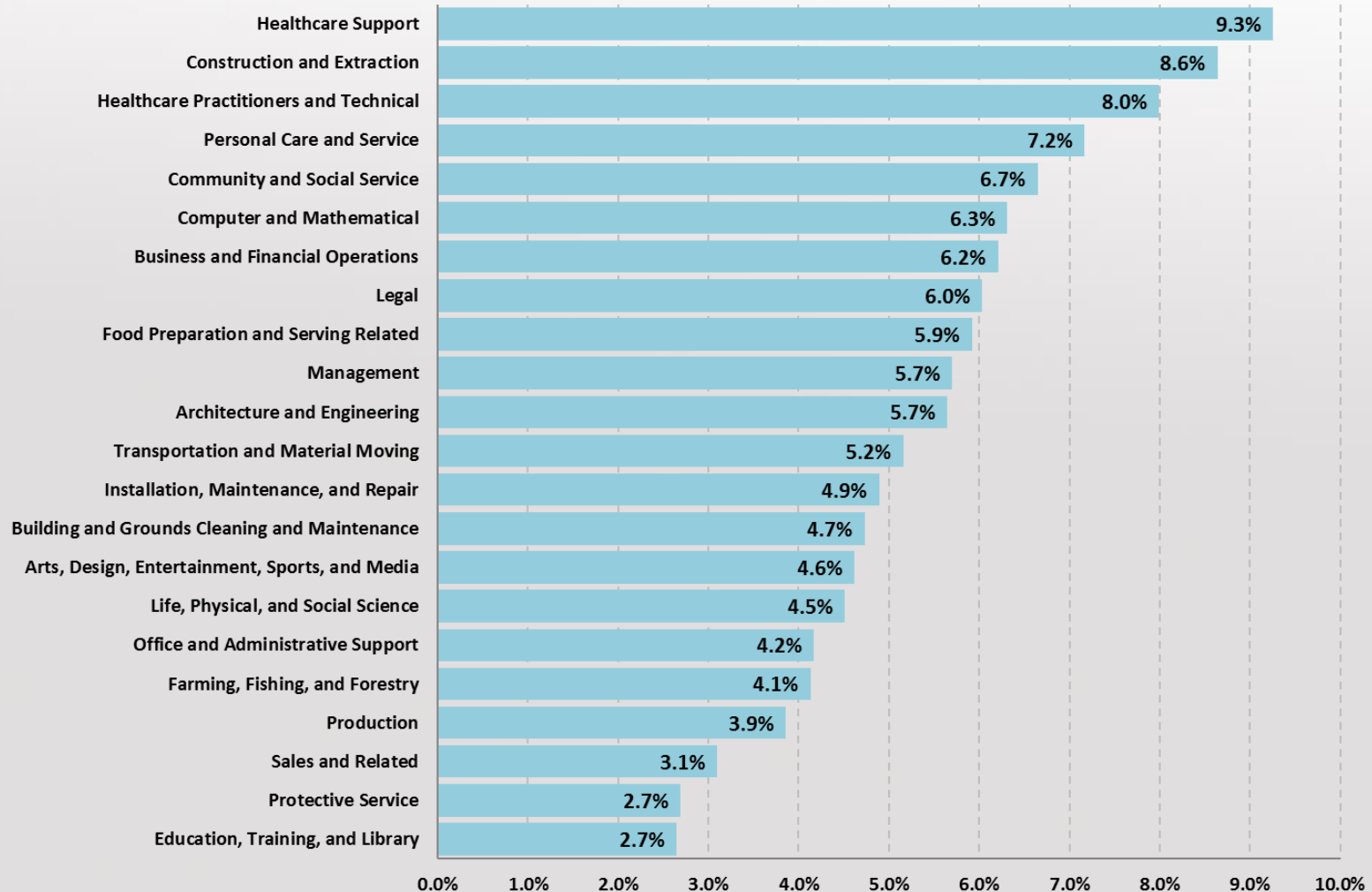
## Arizona Major Occupational Groups

2017 - 2019 Total Numeric Change



## Arizona Major Occupational Groups

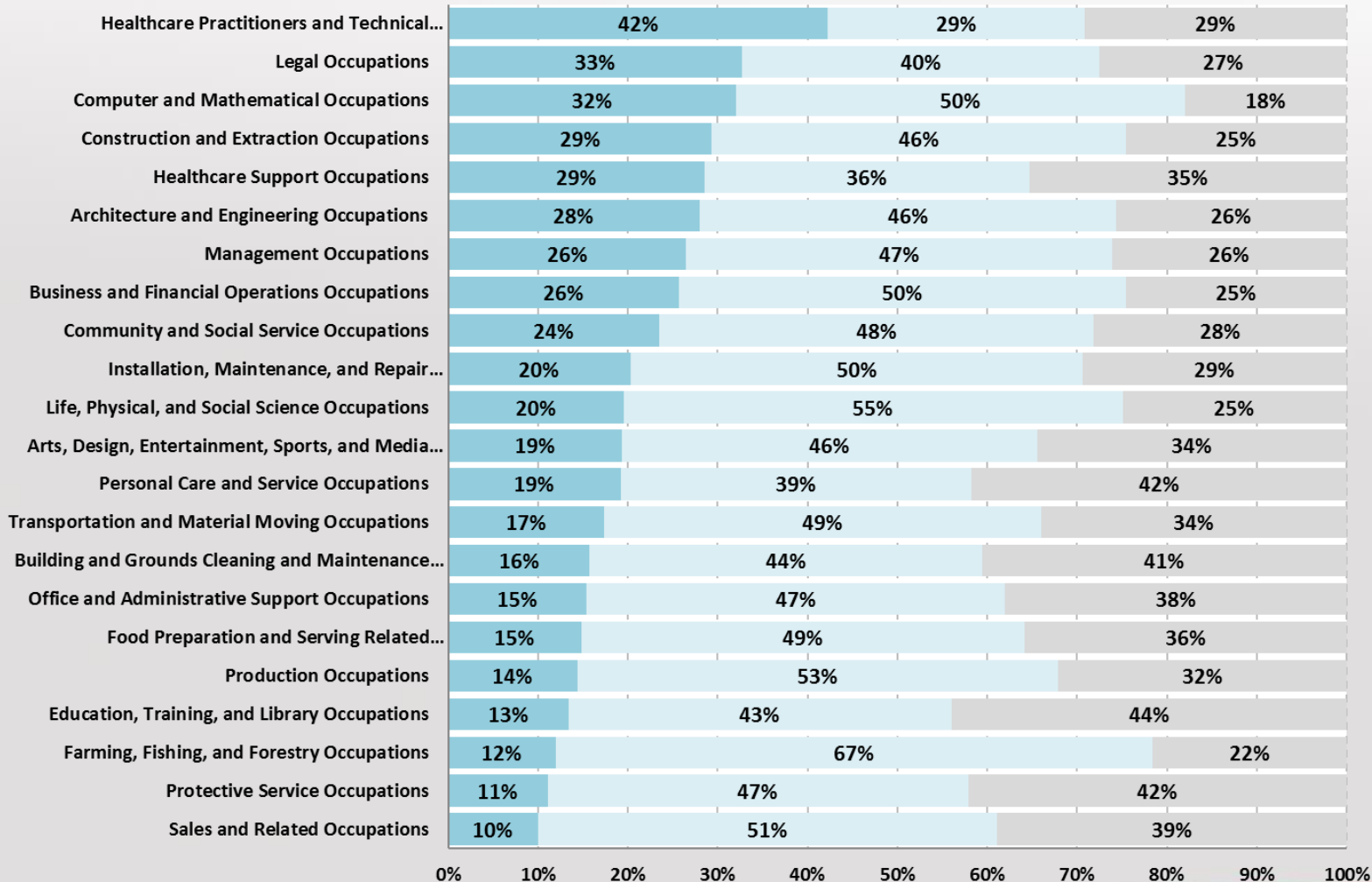
2017 - 2019 Total Percentage Change



## Arizona Major Occupational Groups

2017 - 2019 Total Openings by Growth & Separations

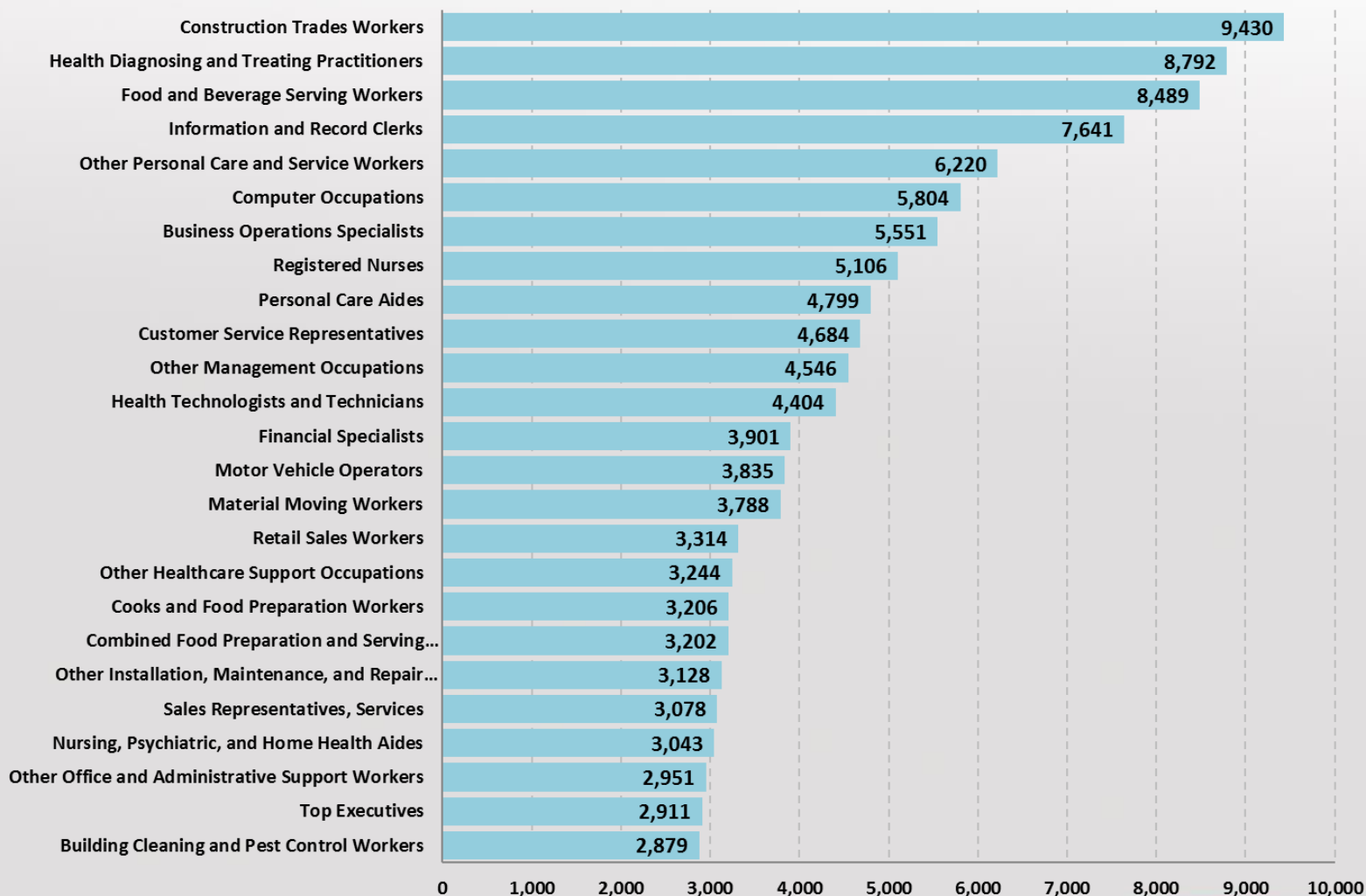
■ Due to Growth (Percentage) ■ Due to Exits (Percentage) ■ Due to Transfers (Percentage)





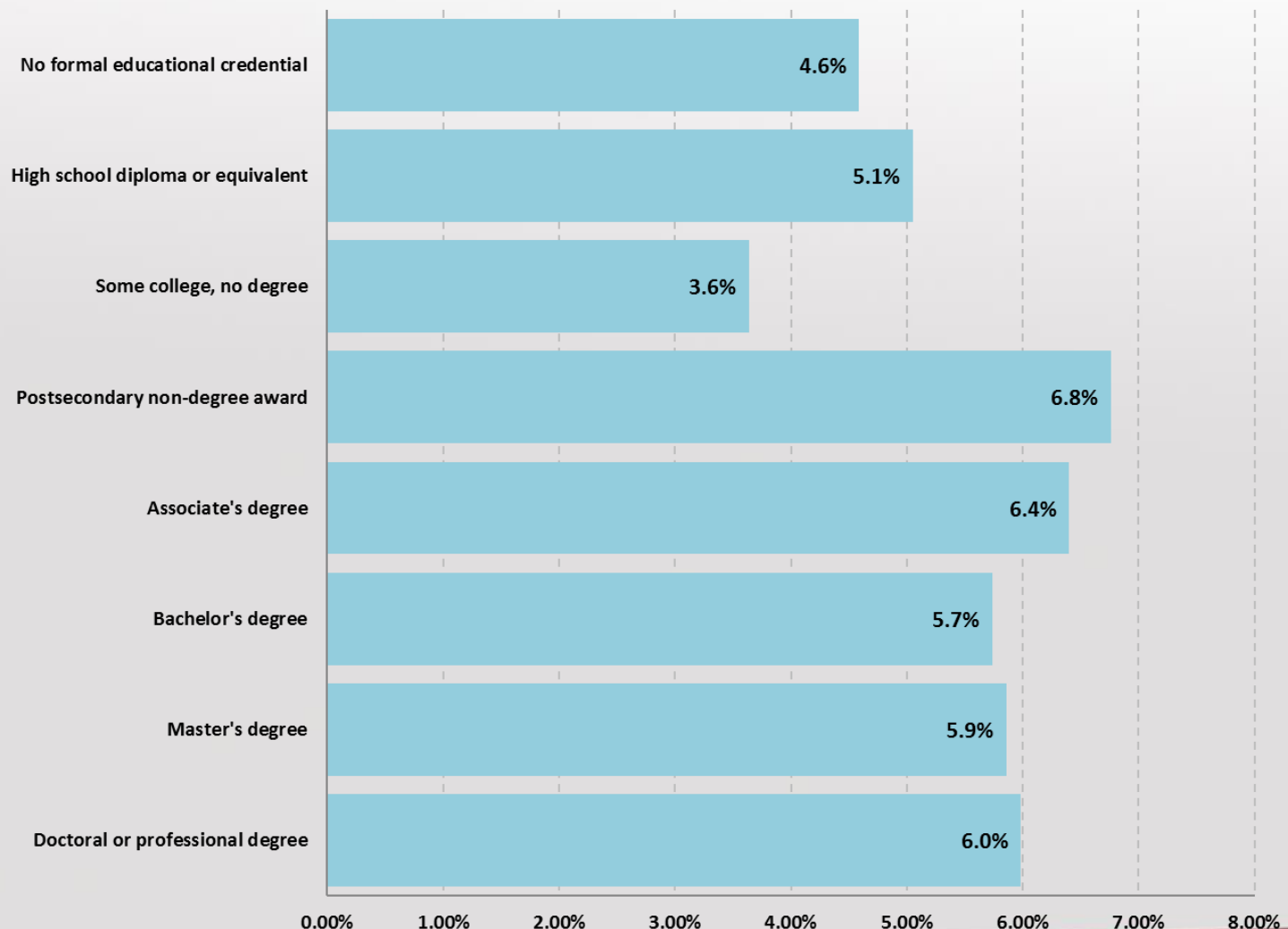
## Top 25 Arizona Detailed Occupations

2017 - 2019 Largest Employment Change



## Arizona Occupations by Minimum Education Requirement

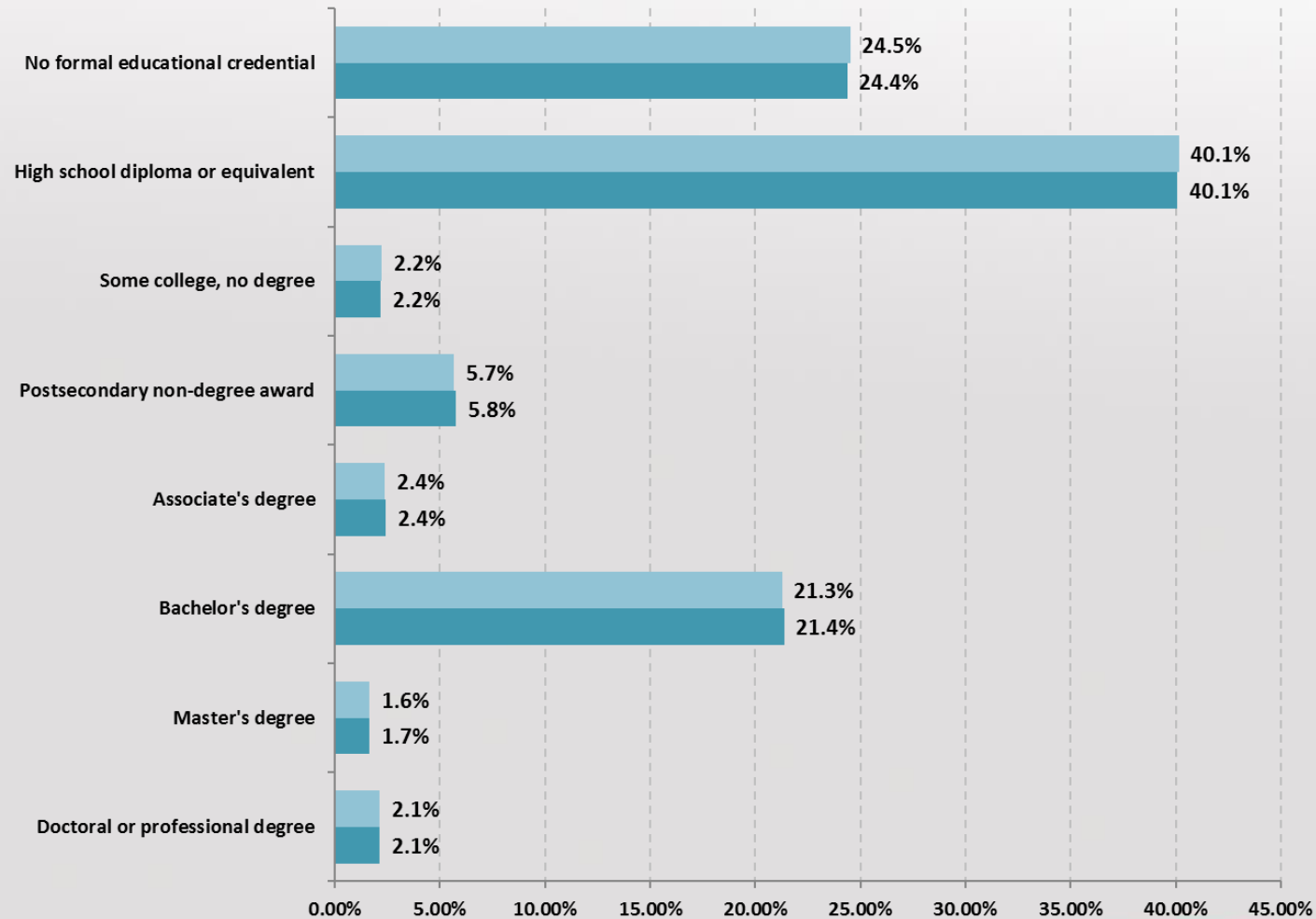
2017 - 2019 Total Percentage Change (Growth Rate)



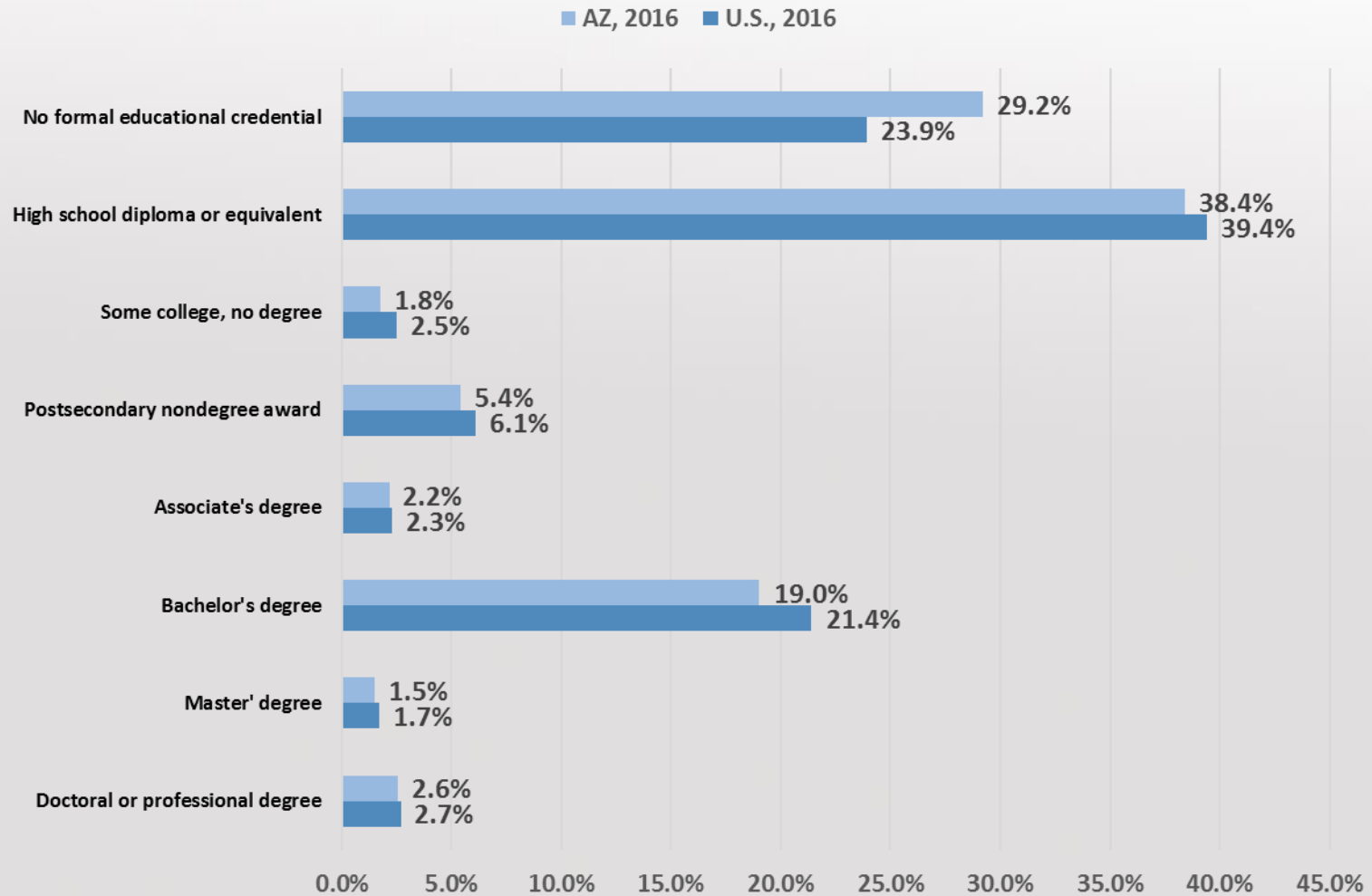
## Arizona Share of Occupations by Minimum Education Requirement

2017 & 2019 Employment Share

2017 Estimated 2019 Projected

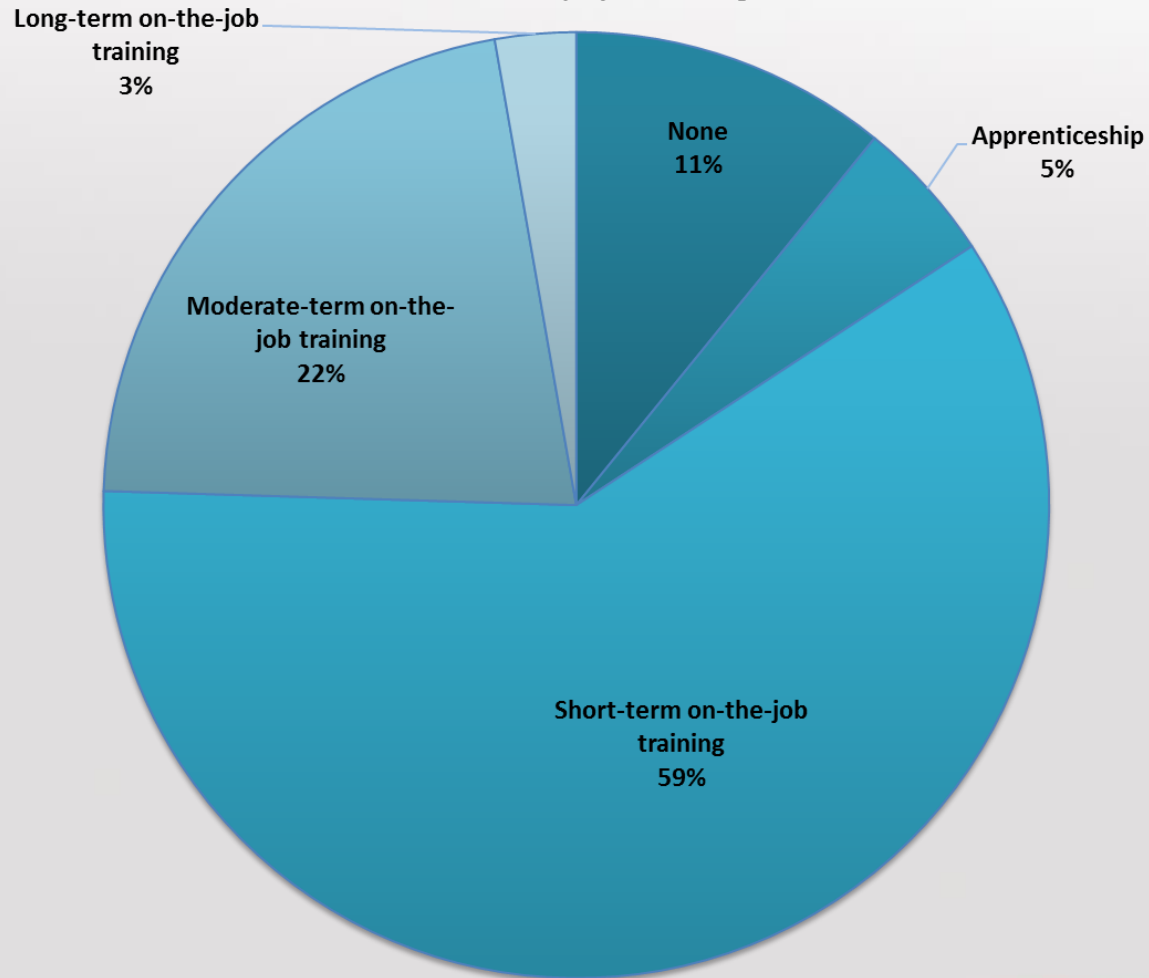


## Share of Occupations by Minimum Education Requirement



**Arizona Share of Job Training Requirement of Those With  
High School Degree or Lower**

2017 - 2019 Employment Change



## Report Summary

- Continued moderate growth projected over the two-year period
  - Total employment is projected to grow by 152,968 jobs over the two-year period (2.6% annualized growth)
- All eleven supersectors are projected to record employment gains
  - Led by Construction (5.2% annualized growth) and Educational and Health Services (39,779 total job gains)
- Employment opportunities projected for occupations requiring all levels of education
  - Growth led by occupations with a minimum ed requirement of post-secondary non-degree award (6.8% two-year growth) an and Associates degree (6.4% two-year growth)

# Thank You!

## Any Questions?

### Upcoming Release Schedule:

- February Employment Report on March 22<sup>nd</sup>
- March Employment Report on April 19<sup>th</sup>